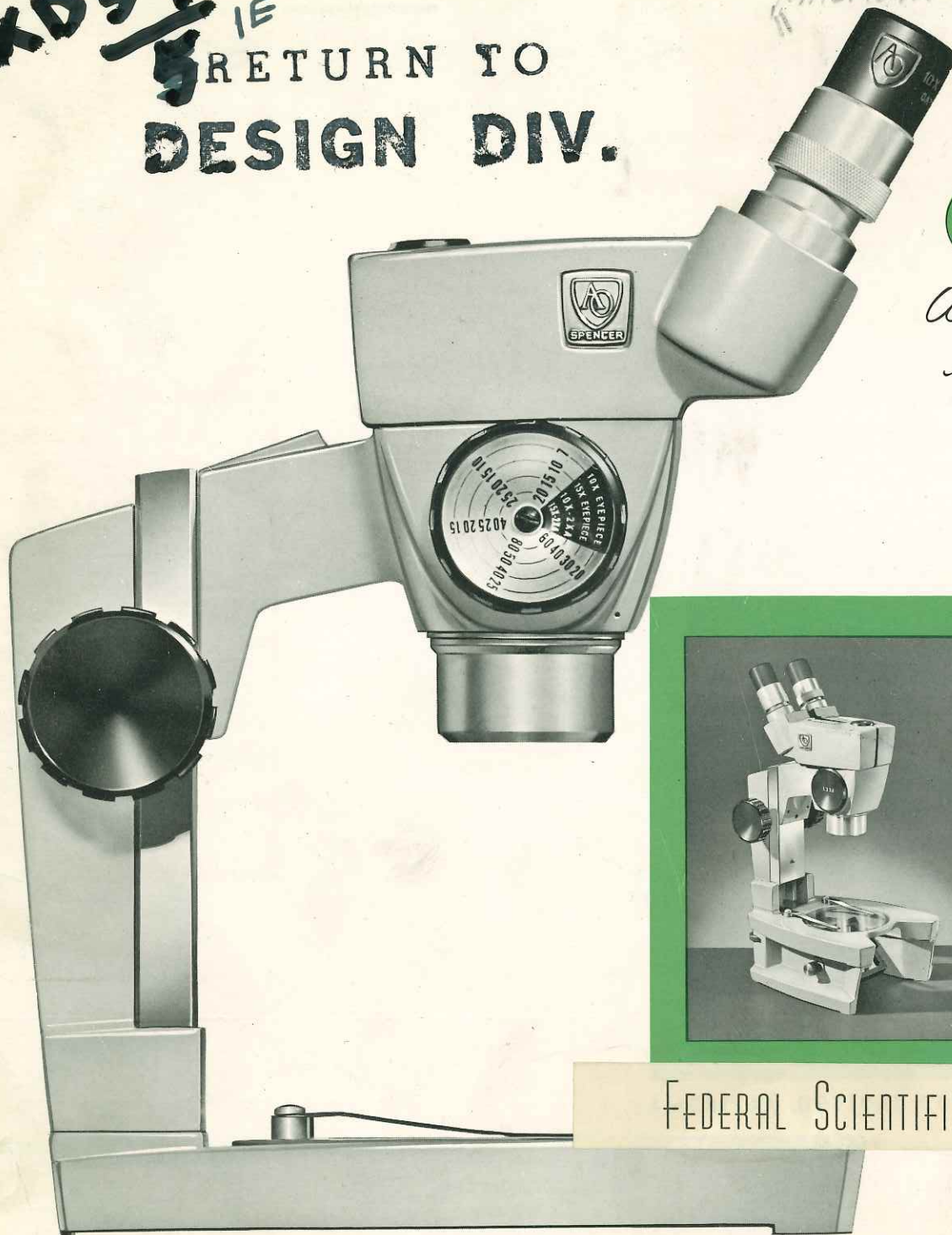


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RETURN TO
DESIGN DIV.

American Optical Co. Instrument Div.

Div. 81



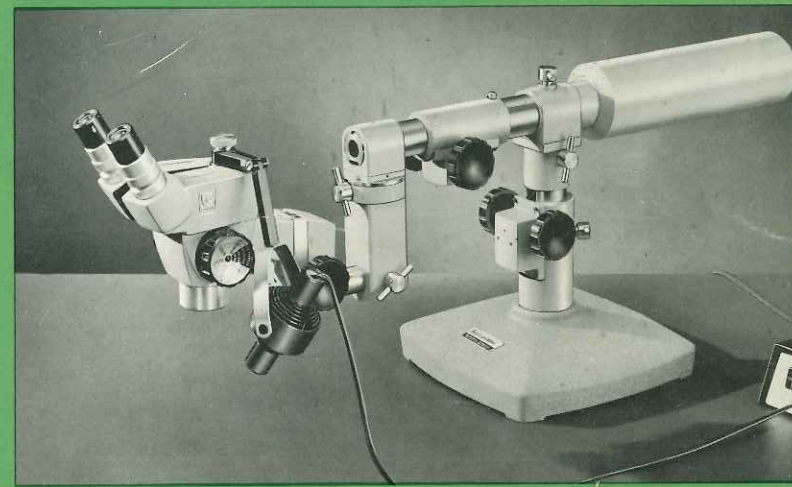
SPENCER

CYCLOPTIC

World's most modern... versatile... and complete
line of STEREOSCOPIC MICROSCOPES !

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Div. 81

CYCLOPTIC

.... *an exciting new concept*

The stereoscopic microscope has been universally established as a necessary instrument for the effective examination and measurement of microscopic details. It enables the user to binocularly observe his specimen . . . provides a true three-dimensional erected image . . . offers long working distance . . . a wide field of view . . . and optimum objective-eyepiece combinations to meet specific magnification needs.

Industrial, Educational and Research workers are constantly striving to improve production methods and quality control techniques on a great variety of problems and applications ranging from the inspection of tremendous castings to the dissection of fruit flies.

American Optical realized the need for a wider and more flexible selection of stereoscopic microscopes to satisfy these many diversified and increasing applications. Surveys were made among extensive users of microscopes in industry, education and research to determine how stereoscopic microscopes should be further improved. Many valuable and constructive ideas were obtained from the survey and engineered into a NEW CONCEPT in stereoscopic microscopes—the CYCLOPTIC MICROSCOPE.

AO Spencer is justifiably proud to continue recognized leadership in microscopes by the addition of this exciting new CYCLOPTIC Series. You, too, will appreciate the numerous advantages offered by the world's most modern . . . versatile . . . and complete line of stereoscopic microscopes. Why not ask for a demonstration today! You'll quickly agree that American Optical offers near-perfection in optical and mechanical design . . . a model to suit every application.



again sets the pace with a new standard of excellence



Div. 81

CYCLOPTIC

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The stereoscopic microscope has been universally established as a necessary instrument for the effective examination and measurement of microscopic details. It enables the user to binocularly observe his specimen . . . provides a true three-dimensional erected image . . . offers long working distance . . . a wide field of view . . . and optimum objective-eyepiece combinations to meet specific needs.

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CYCLOPTIC

A NEW CONCEPT
IN STEREOSCOPIC
MICROSCOPES

Let your interested friends
know about CYCLOPTIC
MICROSCOPES.
Why not list their names
here. They'll thank you.



SPENCER

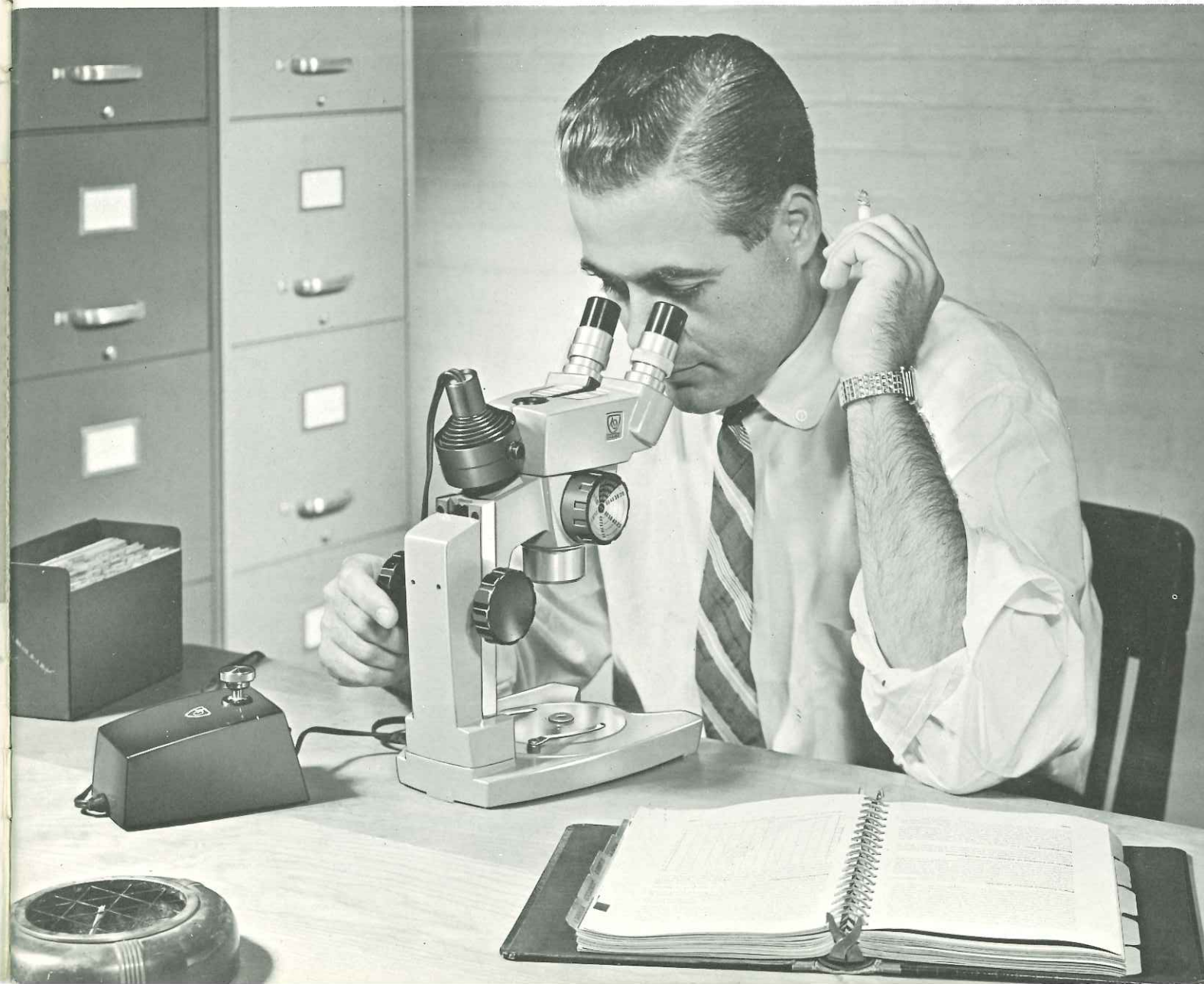
again sets the pace with a new standard of excellence

in stereoscopic microscopes!

BE SURE TO
MAIL
THIS CARD

In Industry, Education and Research . . . applications range from the dissection of fruit flies to the inspection of tremendous castings.

in stereoscopic microscopes!



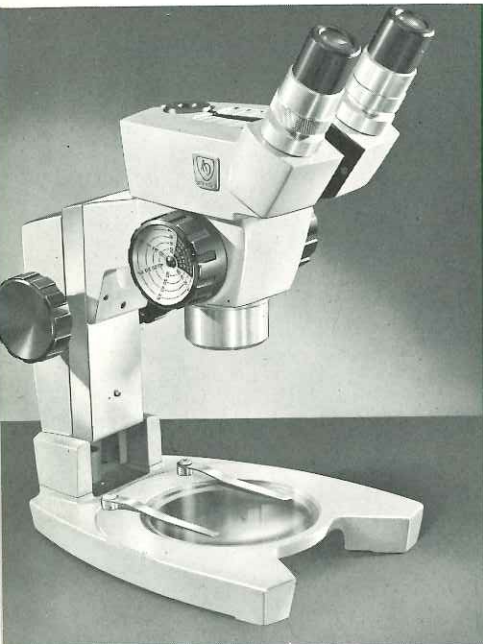
In Industry, Education and Research . . . applications range from the dissection of fruit flies to the inspection of tremendous castings.

Outstanding **CYCLOPTIC** Microscope features . . .

1. *Reversible and inclined body*
2. *Long working distance*
3. *Large field of view*
4. *Wide range of magnifications*
5. *Erected and unreversed image*

6. *Top quality optics . . . low reflection coated*
7. *Enhanced stereoscopic view*
8. *Adjustable for interpupillary and eye-refraction differences*

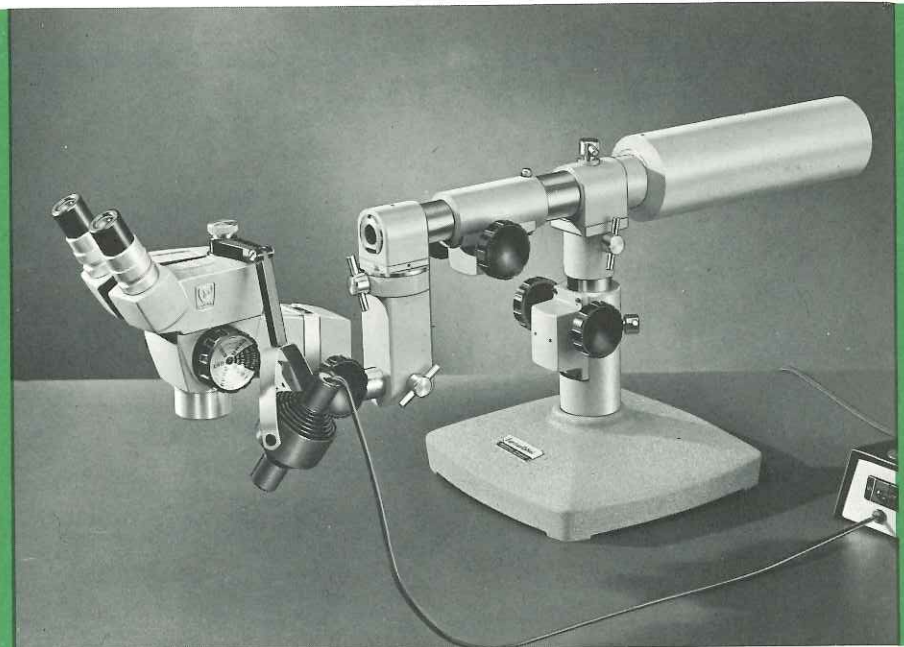
9. *Rigid, well balanced stands*
10. *Advanced styling and design*
11. *Dove-gray EPOXY finish*



Cycloptic Series 56



Cycloptic Series 58



Cycloptic Series 53

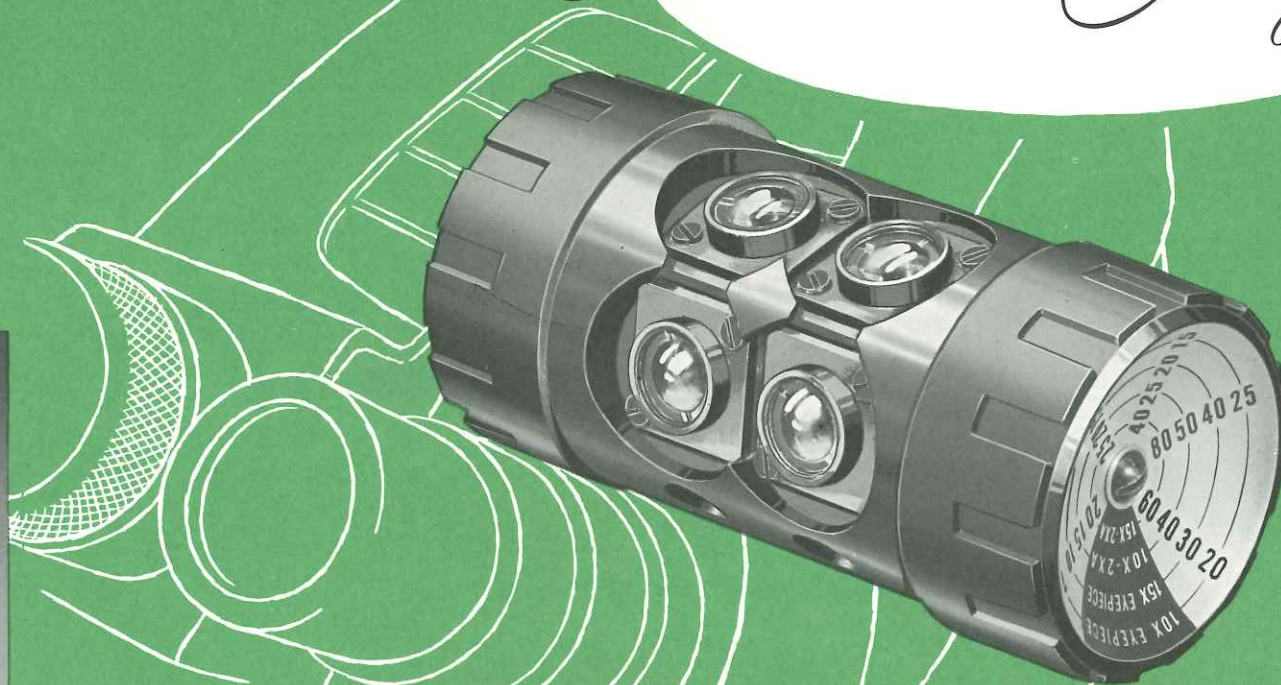
*Broad selection of models
gives unmatched versatility!*

plus . . . the revolutionary

MAGNI-*Changer*

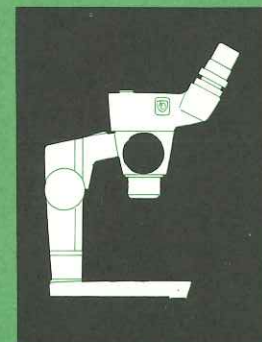


Cycloptic Series 59



Magnifications Simply "Dialed-In"

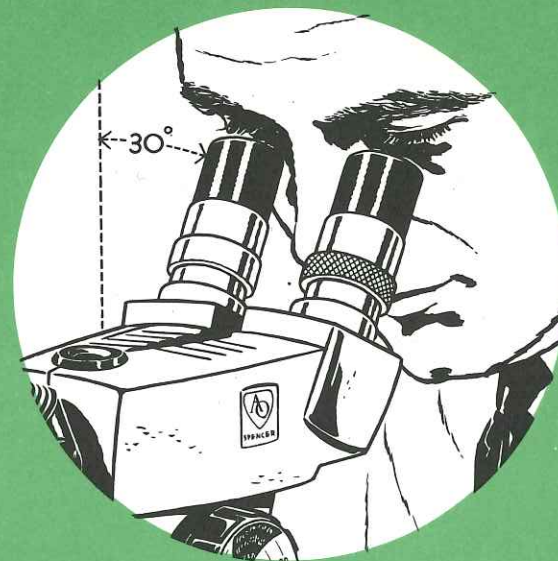
Resultant magnifications range of 3.5X to 80X is available. Desired magnification can be selectively "dialed-in" by simple rotation of the MAGNI-CHANGER to indicated values. The MAGNI-CHANGER is supplied in all "M" model CYCLOPTIC microscopes . . . contains 16 achromatically corrected optical elements . . . offers five different magnifications for each eyepiece-objective combination. Intermediate magnifications are conveniently obtainable by rotation of the MAGNI-CHANGER, insertion of other powered eyepieces or substitution of basic objectives and auxiliary lens-attachments. Other CYCLOPTIC models are supplied with a fixed body magnification (1.33X) and resultant magnification can be varied by substitution and addition of eyepieces, objective, or auxiliary lens-attachments.





REVERSIBLE and INCLINED BODIES

Binocular bodies are readily reversible to suit user preference . . . inclined at optimum angle of 30° from vertical for comfort . . . and adjustable for interpupillary distances 48mm to 78mm. One of the eyepiece tubes is adjustable for correction of eye-refraction differences. Each body section houses a securely mounted one-piece prism sealed against moisture and foreign particles.



BROAD SELECTION OF RIGID WELL-BALANCED STANDS

The stands—the structural units which support all optical components and adjustments—are rigid and well balanced for stability . . . withstand hard usage and handling . . . and insure lasting optical alignment. Adjustment controls are rationally positioned for fatigue-free operation. A wide selection of microscope stands is offered to meet your requirements.

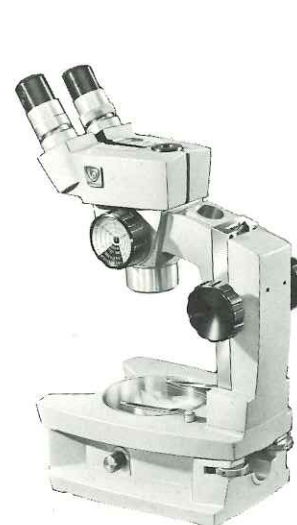
NEW EPOXY FINISH—Remarkably smooth, durable . . . EPOXY . . . unequalled for resistance to chemicals, abrasion and mechanical impact. Pleasing dove-gray color.



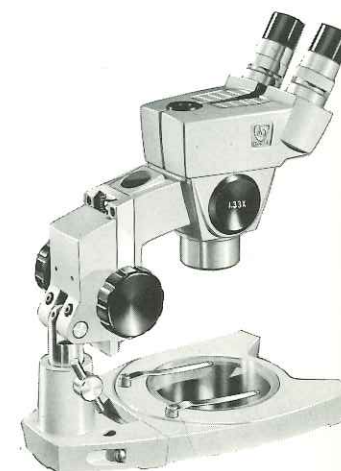
56F-1



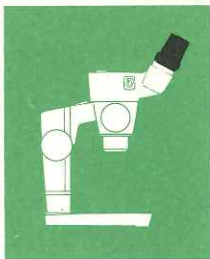
53F-1



58M-1



59F-1



WIDE FIELD EYEPIECES



Completely new four-optical-element wide field eyepieces offer superior image quality . . . wide field of view . . . full chromatic, curvature and distortion correction . . . comfortable eye relief even for eyeglass wearers. A pair of eyeshields is supplied with each CYCLOPTIC microscope. Micrometer disc or reticule can be conveniently inserted into eyepieces.



APOCHROMATIC OBJECTIVES

Two special wide angle high quality objectives have been designed for the CYCLOPTIC Series Microscopes. These three-lens apochromats are superbly corrected for chromatic and spherical aberrations . . . present a crisp, true enhanced stereoscopic image over the full field of view.

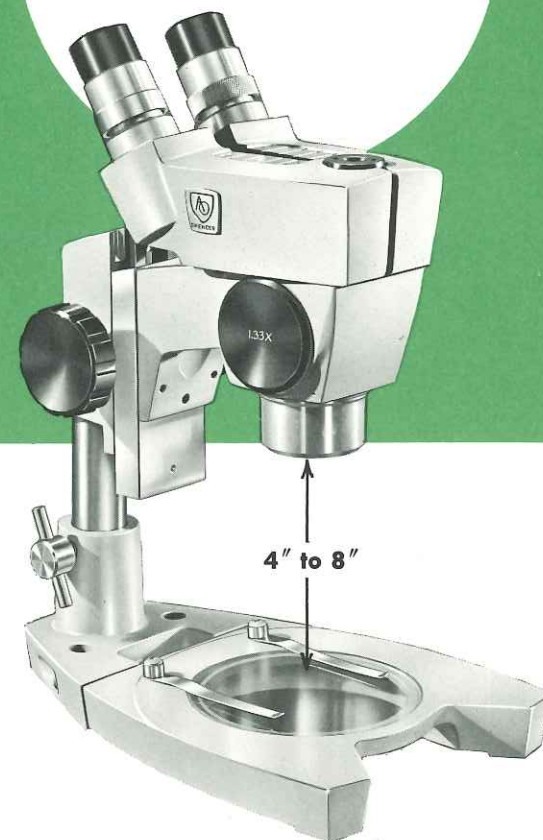


ACHROMATIC AUXILIARY LENS-ATTACHMENTS

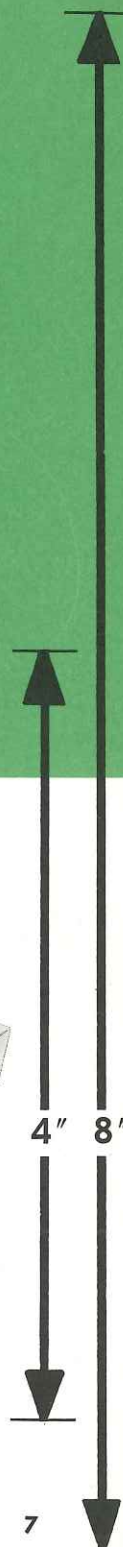
Two achromatically corrected auxiliary lens-attachments are available . . . readily attachable to the basic objective . . . and extend the useful range of magnifications.



LONG WORKING DISTANCES

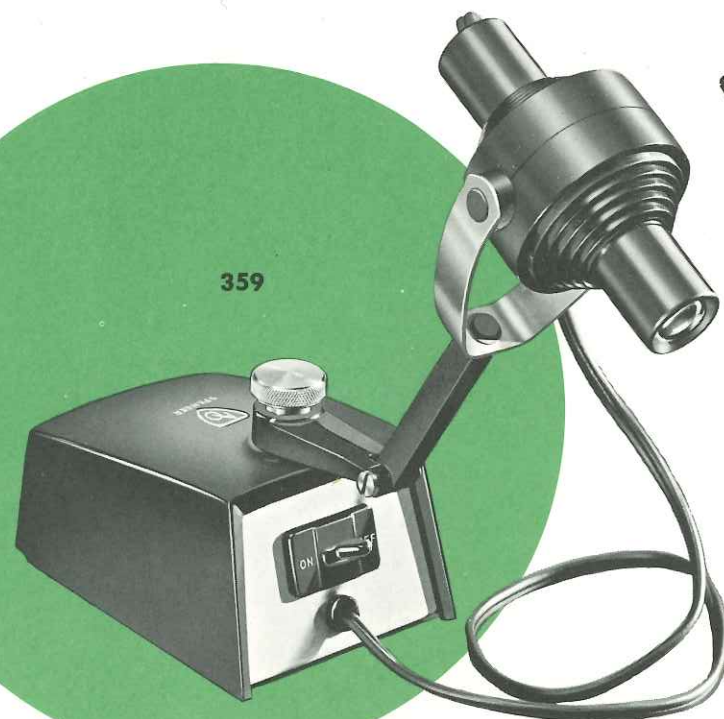
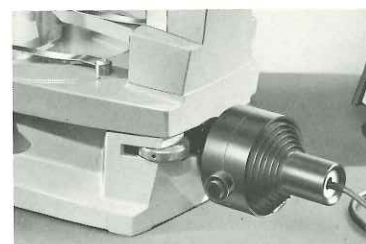


Standard CYCLOPTIC microscopes provide remarkable constant long working distance of 4" between specimen and objective; an extraordinary long working distance of 8" is attainable by use of 1/2X objective and is available on CYCLOPTIC Series 53, 55, 59. These unusually long working distances permit efficient illumination and effective manipulation of specimens.



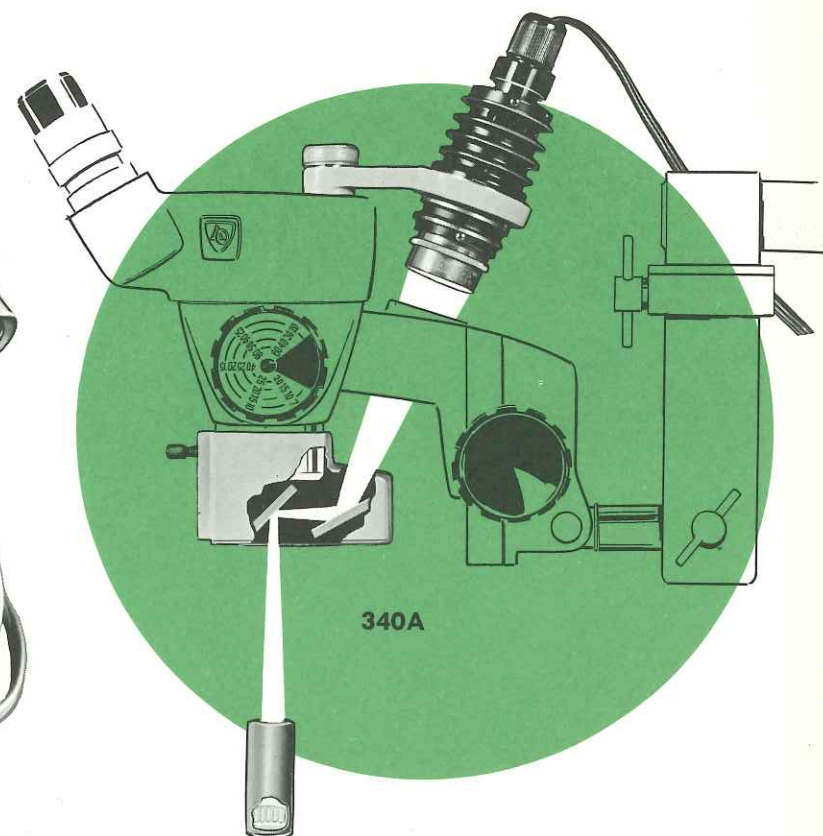
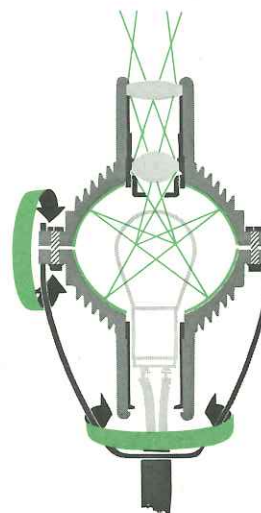


NEW CYCLOSPOT and VERTICAL ILLUMINATOR



The new CYCLOSPOT is outstanding for epi- and trans-illumination... may be used efficiently in five different positions... includes a two-element condenser system, fixed transformer, detachable universal arm... and 6.5V, 2.75 amp. lamp.

Cross section illustrates lamp (G.E. No. 1497), first surfaced spherical mirrors and pre-focused two-lens projection system. Yoke permits easy and quick positioning of light beam and unique venting assures cool operation.



The new Vertical Illuminator permits examination of deep orifices where the angle is too acute for oblique illumination methods. This illuminator extends the advantages of stereoscopic microscopy to a great variety of new problems ranging from the inspection of small I.D. borings in machined parts or castings to delicate ear surgery. It consists of a lamphouse with special bracket and hinge pin for attachment to CYCLOPTIC stand; a vertical reflector that mounts over objective or auxiliary lens attachment; and a variable transformer. A multiple lens focusing system permits you to critically focus the intense light to match the working distances of the standard objective, the 2/3X auxiliary lens attachment, and the 1/2X special long working distance objective.



New, easy-to-follow

CYCLOPTIC MICROSCOPE CODE

For example: Model 58M-T3

58=58 basic stand

T=2/3X Auxiliary Lens-Attachment

M=Magni-Changer

3=10X and 15X Wide Field Eyepieces

TABLE OF RESULTANT MAGNIFICATIONS, FIELDS OF VIEW AND WORKING DISTANCES

FIXED BODY MAGNIFICATION—1.33X (with Standard Objective)

Eyepiece	Auxiliary Lens-Attachment	Magnification	Field of View*	Working Distance*
10X	—	15X	0.60"	4.0"
15	—	20	0.50	4.0
10	2X	25	0.30	1.5
15	2	40	0.25	1.5
10	2/3	10	0.90	4.4
15	2/3	15	0.75	4.4

MAGNI-CHANGER, VARIABLE BODY MAGNIFICATIONS—with Standard Objective

10X	—	7X	1.20"	4.0"
	—	10	0.90	
	—	15	0.60	
	—	20	0.40	
	—	25	0.30	
15X	—	10X	1.00"	4.0"
	—	15	0.75	
	—	20	0.50	
	—	30	0.33	
	—	40	0.25	
10X	2X	15X	0.60"	1.5"
		20	0.45	
		25	0.30	
		40	0.20	
		50	0.15	
15X	2X	20X	0.50"	1.5"
		25	0.37	
		40	0.25	
		60	0.17	
		80	0.13	
10X	2/3X	4.5X	1.75"	4.4"
		6	1.33	
		10	0.90	
		15	0.60	
		18	0.45	
15X	2/3X	7X	1.50"	4.4"
		10	1.12	
		15	.75	
		20	.50	
		25	.37	

SPECIAL LONG WORKING DISTANCE COMBINATIONS FOR CYCLOPTIC SERIES 53, 55, 59 ONLY

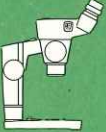
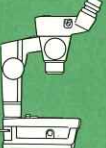
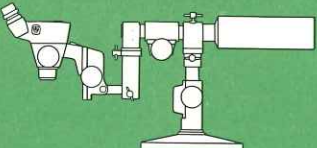
FIXED BODY MAGNIFICATION—1.33/2X (with Special 1/2X Objective)

10X	—	7X	1.20"	8.0"
15X	—	10	1.00	8.0

MAGNI-CHANGER, VARIABLE BODY MAGNIFICATIONS—Special 1/2X Objective

10X	—	3.5X	2.40"	8.0"
	—	5	1.80	
	—	7	1.20	
	—	10	0.80	
	—	15	0.60	
15X	—	5X	2.00"	8.0"
	—	7	1.50	
	—	10	1.00	
	—	15	0.66	
	—	20	0.50	

*To convert inch values to millimeters: multiply by 25.4

Basic Stand	Body Magnification	Auxiliary Lens-Attachment	Eyepieces
56 			1  10X Wide Field
58 	F  Fixed Body Magnification with standard objective	T  2/3X	2  15X Wide Field
59 	M  MAGNI-CHANGER with standard objective	D  2X	3  10X Wide Field and 15X Wide Field
55 			
53 			

HYPHEN

SPECIAL LONG WORKING DISTANCE COMBINATIONS
available on series 53, 55 and 59 only.

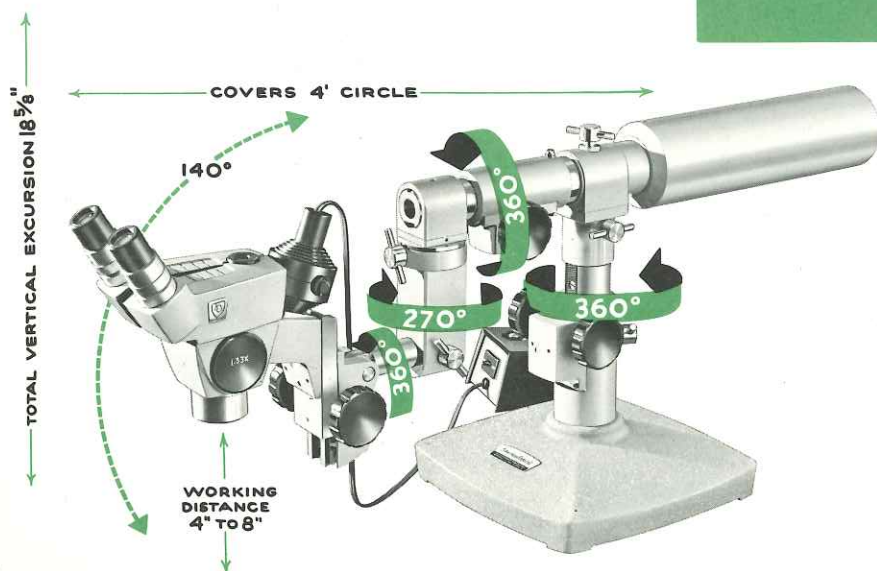
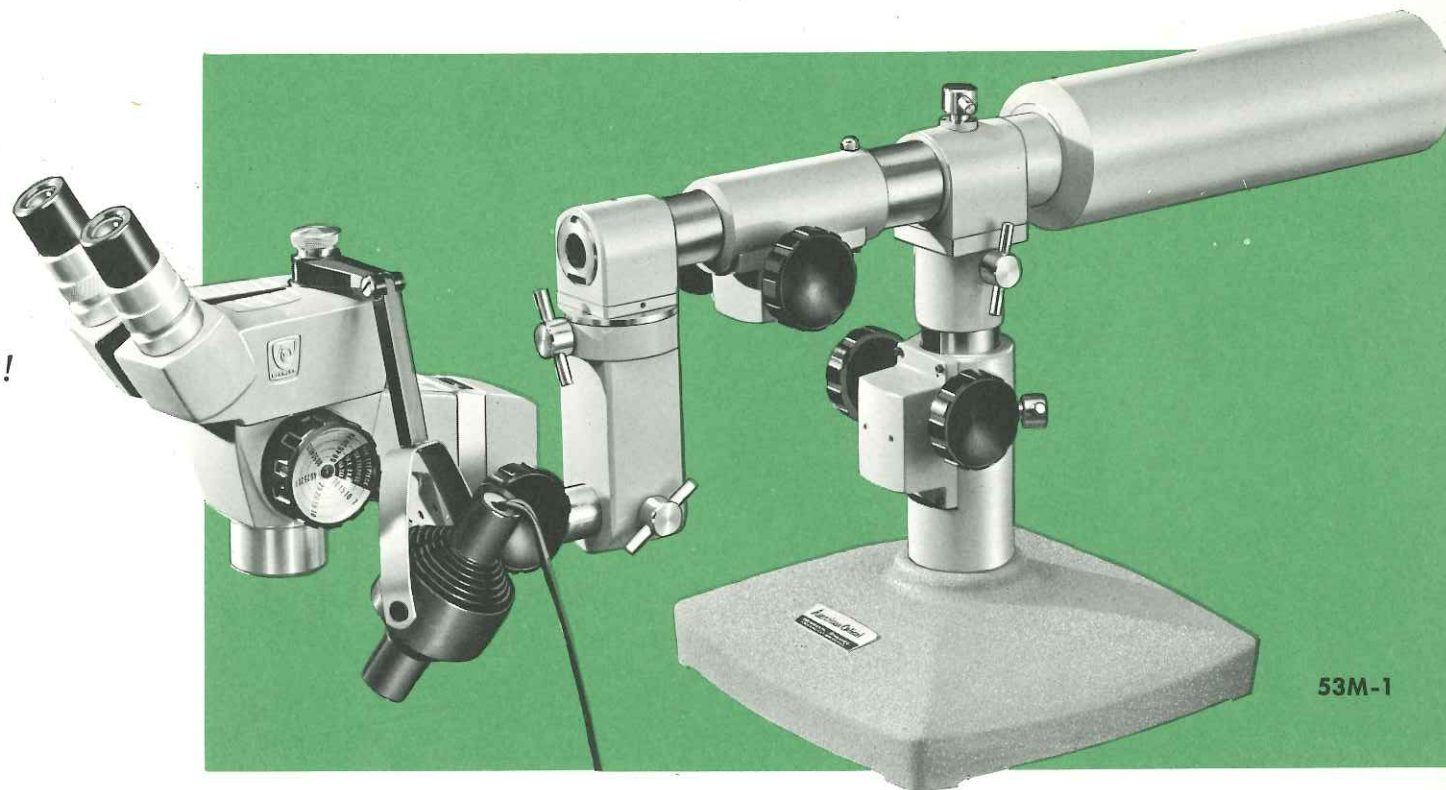
Basic Stand	Body Magnification	Auxiliary Lens-Attachment	Eyepieces
59	FL  Fixed Body Magnification with Special 1/2X objective		1  10X Wide Field
55			
53	ML  MAGNI-CHANGER with Special 1/2X objective		2  15X Wide Field

HYPHEN

CYCLOPTIC MICROSCOPE...SERIES 53F and 53M

NEW UNIVERSAL TABLE STAND

*... widest range
of adjustments ever offered!*



CYCLOPTIC MICROSCOPE Series 53F and 53M are supplied with inclined, reversible binocular bodies; standard apochromatic objective or special long working distance 1/2X apochromatic objective as selected; eyepieces and auxiliary lens-attachments as selected; wide, durable, diagonally-cut rack and pinion focusing and positioning adjustments; large universal table stand. CYCLOPTIC MICROSCOPE Series 53F has a fixed body magnification of 1.33X.

CYCLOPTIC MICROSCOPE Series 53M is equipped with a unique MAGNI-CHANGER offering quick and easy selection of five body magnifications. Resultant magnifications are indexed on the positioning dial.

A wide selection of CYCLOPTIC MICROSCOPES Series 53F and 53M is available to satisfy your specific needs. Illustrated models 53M-1 and 53F-1 ... and tabulation of additional models on page 11 are presented to simplify your final selection.

AO SPENCER CYCLOPTIC...SERIES 53F and 53M

SERIES 53F



Catalog Number	Body Magnification	Auxiliary Lens-Attachment	Eyepieces Wide Field	Magnifications	Working Distance
53F	1.33X	None	None	—	—
53F-1	1.33X	None	10X	15X	4"
53F-2	1.33X	None	15X	20X	4"
53F-3	1.33X	None	10X, 15X	15X, 20X	4"
53F-T1	1.33X	2/3X	10X	10X, 15X	4", 4.4"
53F-T2	1.33X	2/3X	15X	15X, 20X	4", 4.4"
53F-T3	1.33X	2/3X	10X, 15X	10X, 15X, 20X	4", 4.4"
53F-D1	1.33X	2X	10X	15X, 25X	1.5", 4"
53F-D2	1.33X	2X	15X	20X, 40X	1.5", 4"
53F-D3	1.33X	2X	10X, 15X	15X, 20X, 25X, 40X	1.5", 4"

SERIES 53M



53M	Magni-Changer	None	None	—	—
53M-1	Magni-Changer	None	10X	7X, 10X, 15X, 20X, 25X	4"
53M-2	Magni-Changer	None	15X	10X, 15X, 20X, 30X, 40X	4"
53M-3	Magni-Changer	None	10X, 15X	7X, 10X, 15X, 20X, 25X, 30X, 40X	4"
53M-T1	Magni-Changer	2/3X	10X	4.5X, 6X, 7X, 10X, 15X, 18X, 20X, 25X	4", 4.4"
53M-T2	Magni-Changer	2/3X	15X	7X, 10X, 15X, 20X, 25X, 30X, 40X	4", 4.4"
53M-T3	Magni-Changer	2/3X	10X, 15X	4.5X, 6X, 7X, 10X, 15X, 18X, 20X, 25X, 30X, 40X	4", 4.4"
53M-D1	Magni-Changer	2X	10X	7X, 10X, 15X, 20X, 25X, 40X, 50X	1.5", 4"
53M-D2	Magni-Changer	2X	15X	10X, 15X, 20X, 25X, 30X, 40X, 60X, 80X	1.5", 4"
53M-D3	Magni-Changer	2X	10X, 15X	7X, 10X, 15X, 20X, 25X, 30X, 40X, 50X, 60X, 80X	1.5", 4"

SPECIAL LONG WORKING DISTANCE COMBINATIONS

53FL-1	Special: 1.33/2	None	10X	7.5X	8"
53FL-2	Special: 1.33/2	None	15X	10X	8"
53ML-1	Magni-Changer and 1/2X Objective	None	10X	3.5X, 5X, 7.5X, 10X, 12.5X	8"
53ML-2	Magni-Changer and 1/2X Objective	None	15X	5X, 7.5X, 10X, 15X, 20X	8"

Cabinets are not available for CYCLOPTIC Series 53F and 53M.

CYCLOPTIC MICROSCOPE . . . SERIES 56F and 56M

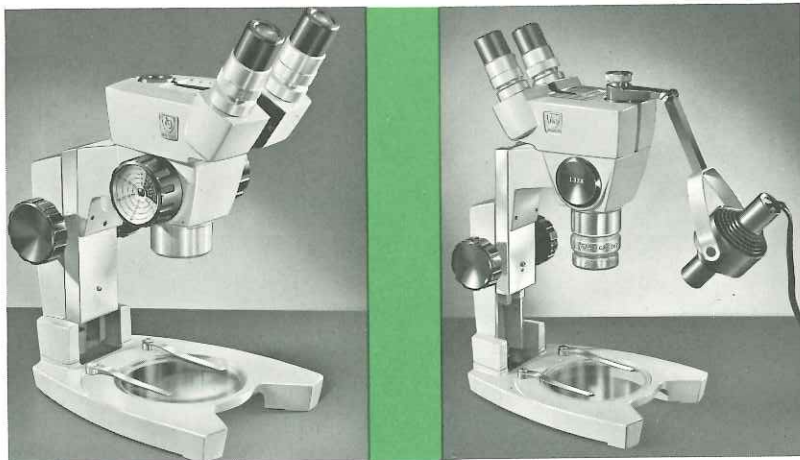
CYCLOPTIC MICROSCOPE Series 56F and 56M are supplied with inclined, reversible binocular bodies; standard apochromatic objective; eyepieces and auxiliary lens-attachments as selected; wide, durable, diagonally-cut rack and pinion focusing adjustment . . . adjustable tension; heavy duty slideways . . . extra long excursion; standard base-stage with glass insert and stage clips.

CYCLOPTIC MICROSCOPE Series 56F has a fixed body magnification of 1.33X.

CYCLOPTIC MICROSCOPE Series 56M is equipped with a unique MAGNI-CHANGER offering quick and easy selection of five body magnifications. Resultant magnifications are indexed on the positioning dial.

Series 56F and 56M are convertible to Series 58F and 58M by addition of 58S base.

A wide selection of CYCLOPTIC MICROSCOPE Series 56F and 56M is available to satisfy your specific needs. Illustrated models 56F-1, 56M-1 and 56F-T1 . . . and tabulation of additional models on page 13 are presented to simplify your final selection.



56M-1

56F-T1



56F-1

AO SPENCER CYCLOPTIC . . . SERIES 56F and 56M

SERIES 56F



Catalog Number	Body Magnification	Auxiliary Lens-Attachment	Eyepieces Wide Field	Magnifications	Working Distance
56F	1.33X	—	—	—	—
56F-1	1.33X	—	10X	15X	4"
56F-2	1.33X	—	15X	20X	4"
56F-3	1.33X	—	10X, 15X	15X, 20X	4"
56F-T1	1.33X	2/3X	10X	10X, 15X	4", 4.4"
56F-T2	1.33X	2/3X	15X	15X, 20X	4", 4.4"
56F-T3	1.33X	2/3X	10X, 15X	10X, 15X, 20X	4", 4.4"
56F-D1	1.33X	2X	10X	15X, 25X	1.5", 4"
56F-D2	1.33X	2X	15X	20X, 40X	1.5", 4"
56F-D3	1.33X	2X	10X, 15X	15X, 20X, 25X, 40X	1.5", 4"
56M	Magni-Changer	—	—	—	—
56M-1	Magni-Changer	—	10X	7X, 10X, 15X, 20X, 25X	4"
56M-2	Magni-Changer	—	15X	10X, 15X, 20X, 30X, 40X	4"
56M-3	Magni-Changer	—	10X, 15X	7X, 10X, 15X, 20X, 25X, 30X, 40X	4"
56M-T1	Magni-Changer	2/3X	10X	4.5X, 6X, 7X, 10X, 15X, 18X, 20X, 25X	4", 4.4"
56M-T2	Magni-Changer	2/3X	15X	7X, 10X, 15X, 20X, 25X, 30X, 40X	4", 4.4"
56M-T3	Magni-Changer	2/3X	10X, 15X	4.5X, 6X, 7X, 10X, 15X, 18X, 20X, 25X, 30X, 40X	4", 4.4"
56M-D1	Magni-Changer	2X	10X	7X, 10X, 15X, 20X, 25X, 40X, 50X	1.5", 4"
56M-D2	Magni-Changer	2X	15X	10X, 15X, 20X, 25X, 30X, 40X, 60X, 80X	1.5", 4"
56M-D3	Magni-Changer	2X	10X, 15X	7X, 10X, 15X, 20X, 25X, 30X, 40X, 50X, 60X, 80X	1.5", 4"



SERIES 56M

No. 1656 Cabinet for CYCLOPTIC microscope Series 56F and 56M is available at additional cost. See price insert.



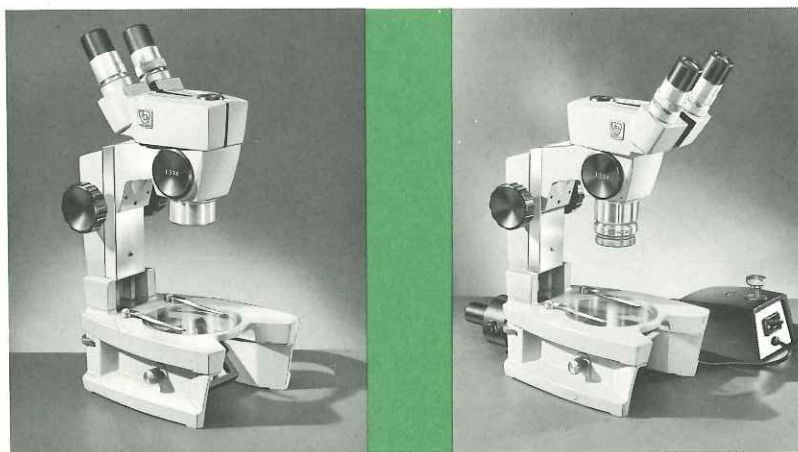
CYCLOPTIC MICROSCOPE ... SERIES 58F and 58M

CYCLOPTIC MICROSCOPE Series 58F and 58M are supplied with inclined, reversible binocular bodies; standard apochromatic objective; eyepieces and auxiliary lens-attachments as selected; wide, durable, diagonally-cut rack and pinion focusing adjustment . . . adjustable tension; heavy duty slideways . . . extra long excursion; standard stage with glass insert and stage clips; detachable trans-illuminating substage base.

CYCLOPTIC MICROSCOPE Series 58F has a fixed body magnification of 1.33X.

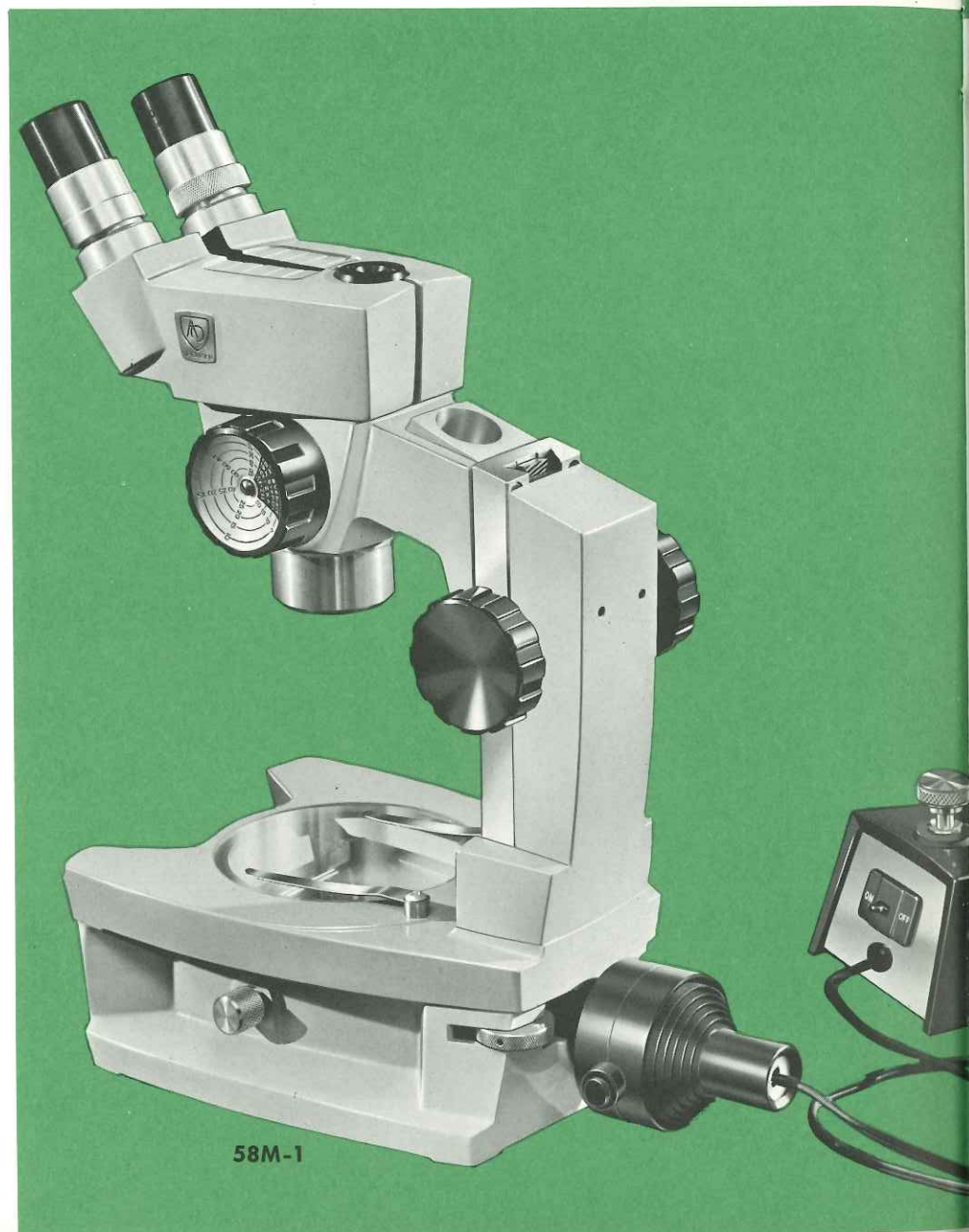
CYCLOPTIC MICROSCOPE Series 58M is equipped with a unique MAGNI-CHANGER offering quick and easy selection of five body magnifications. Resultant magnifications are indexed on the positioning dial.

A wide selection of CYCLOPTIC MICROSCOPES Series 58F and 58M is available to satisfy your specific needs. Illustrated models 58M-1, 58F-1 and 58F-T1 . . . and tabulation of additional models on page 15 are presented to simplify your final selection.



58F-1

58F-T1



58M-1

AO SPENCER CYCLOPTIC . . . SERIES 58F and 58M

SERIES 58F



Catalog Number	Body Magnification	Auxiliary Lens-Attachment	Eyepieces Wide Field	Magnifications	Working Distance
58F	1.33X	—	—	—	—
58F-1	1.33X	—	10X	15X	4"
58F-2	1.33X	—	15X	20X	4"
58F-3	1.33X	—	10X, 15X	15X, 20X	4"
58F-T1	1.33X	2/3X	10X	10X, 15X	4", 4.4"
58F-T2	1.33X	2/3X	15X	15X, 20X	4", 4.4"
58F-T3	1.33X	2/3X	10X, 15X	10X, 15X, 20X	4", 4.4"
58F-D1	1.33X	2X	10X	15X, 25X	1.5", 4"
58F-D2	1.33X	2X	15X	20X, 40X	1.5", 4"
58F-D3	1.33X	2X	10X, 15X	15X, 20X, 25X, 40X	1.5", 4"

SERIES 58M



58M	Magni-Changer	—	—	—	—
58M-1	Magni-Changer	—	10X	7X, 10X, 15X, 20X, 25X	4"
58M-2	Magni-Changer	—	15X	10X, 15X, 20X, 30X, 40X	4"
58M-3	Magni-Changer	—	10X, 15X	7X, 10X, 15X, 20X, 25X, 30X, 40X	4"
58M-T1	Magni-Changer	2/3X	10X	4.5X, 6X, 7X, 10X, 15X, 18X, 20X, 25X	4", 4.4"
58M-T2	Magni-Changer	2/3X	15X	7X, 10X, 15X, 20X, 25X, 30X, 40X	4", 4.4"
58M-T3	Magni-Changer	2/3X	10X, 15X	4.5X, 6X, 7X, 10X, 15X, 18X, 20X, 25X, 30X, 40X	4", 4.4"
58M-D1	Magni-Changer	2X	10X	7X, 10X, 15X, 20X, 25X, 40X, 50X	1.5", 4"
58M-D2	Magni-Changer	2X	15X	10X, 15X, 20X, 25X, 30X, 40X, 60X, 80X	1.5", 4"
58M-D3	Magni-Changer	2X	10X, 15X	7X, 10X, 15X, 20X, 25X, 30X, 40X, 50X, 60X, 80X	1.5", 4"

No. 1658 Cabinet for CYCLOPTIC microscopes Series 58F and 58M is available at additional cost. See price insert.



CYCLOPTIC

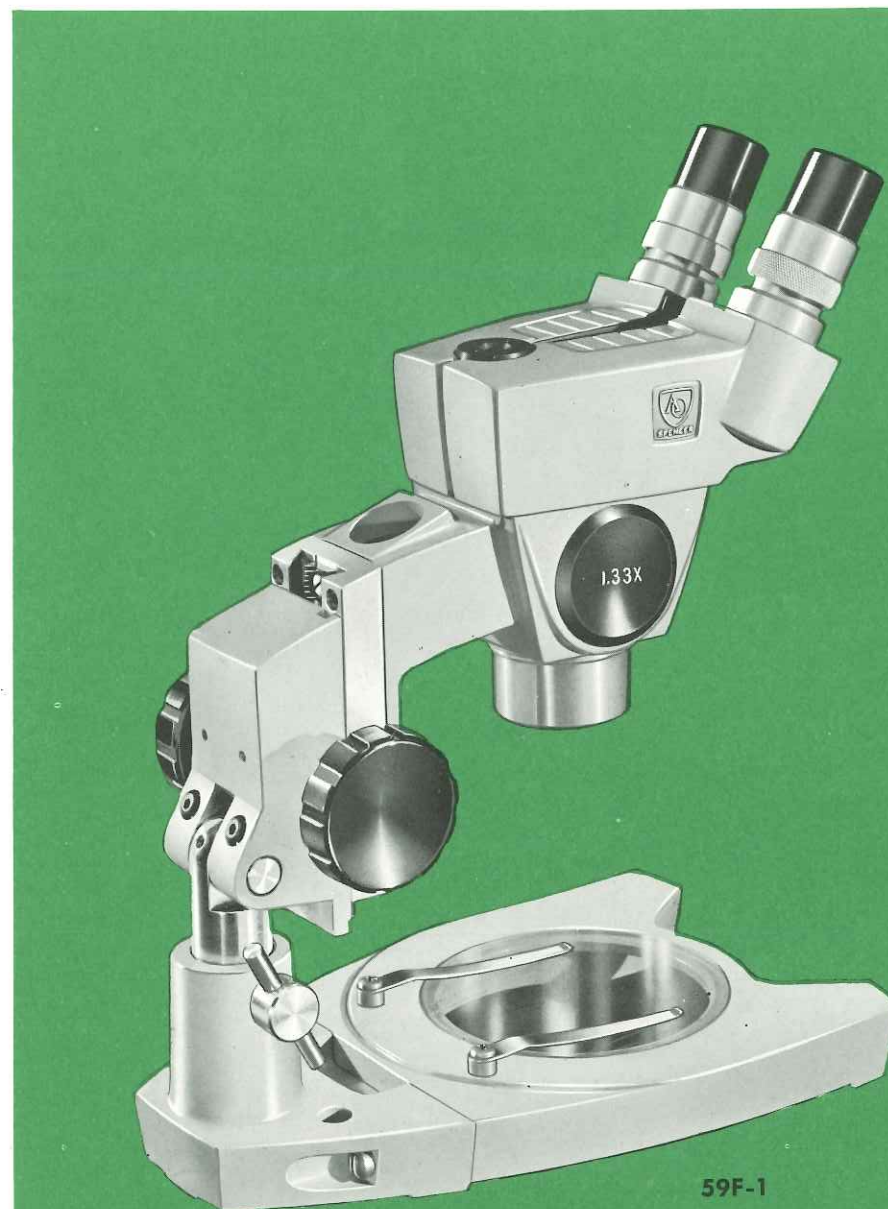
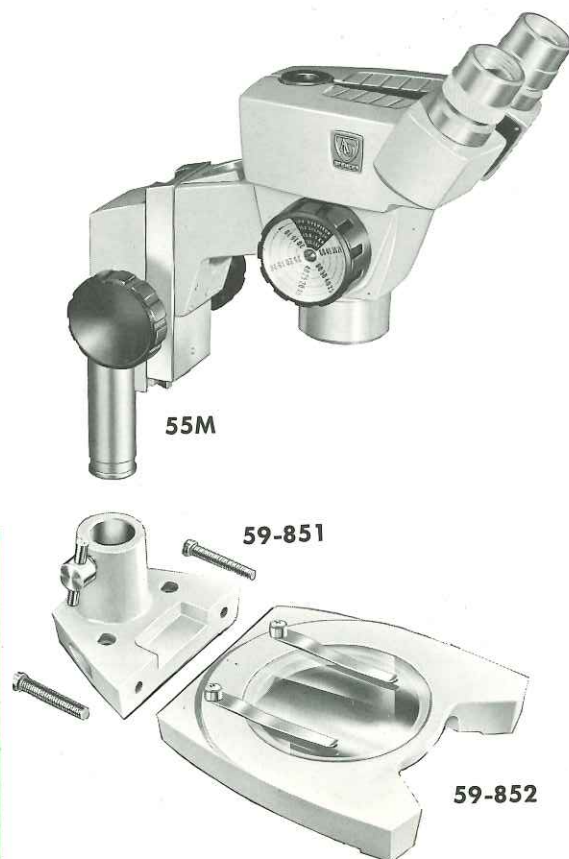
MICROSCOPE . . . SERIES 59F and 59M

CYCLOPTIC MICROSCOPE Series 59F and 59M are supplied with inclined, reversible binocular bodies; standard apochromatic objective or special long working distance 1/2X apochromatic objective as selected; eyepieces and auxiliary lens-attachments as selected; wide, durable, diagonally-cut rack and pinion focusing adjustment . . . adjustable tension; heavy duty slideways; yoke and pillar; detachable base-stage with glass insert and stage clips.

CYCLOPTIC MICROSCOPE Series 59F has a fixed body magnification of 1.33X.

CYCLOPTIC MICROSCOPE Series 59M is equipped with a unique MAGNI-CHANGER offering quick and easy selection of five body magnifications. Resultant magnifications are indexed on the positioning dial.

A wide selection of CYCLOPTIC MICROSCOPES Series 59F and 59M is available to satisfy your specific needs. Illustrated model 59F-1 and component parts 55M and 59S . . . and tabulation of additional models on page 17 are presented to simplify your final selection.



AO SPENCER CYCLOPTIC . . . SERIES 59F and 59M

SERIES 59F



Catalog Number	Body Magnification	Auxiliary Lens-Attachment	Eyepieces Wide Field	Magnifications	Working Distance
59F	1.33X	—	—	—	—
59F-1	1.33X	—	10X	15X	4"
59F-2	1.33X	—	15X	20X	4"
59F-3	1.33X	—	10X, 15X	15X, 20X	4"
59F-T1	1.33X	2/3X	10X	10X, 15X	4", 4.4"
59F-T2	1.33X	2/3X	15X	15X, 20X	4", 4.4"
59F-T3	1.33X	2/3X	10X, 15X	10X, 15X, 20X	4", 4.4"
59F-D1	1.33X	2X	10X	15X, 25X	1.5", 4"
59F-D2	1.33X	2X	15X	20X, 40X	1.5", 4"
59F-D3	1.33X	2X	10X, 15X	15X, 20X, 25X, 40X	1.5", 4"

SERIES 59M



59M	Magni-Changer	—	—	—	—
59M-1	Magni-Changer	—	10X	7X, 10X, 15X, 20X, 25X	4"
59M-2	Magni-Changer	—	15X	10X, 15X, 20X, 30X, 40X	4"
59M-3	Magni-Changer	—	10X, 15X	7X, 10X, 15X, 20X, 25X, 30X, 40X	4"
59M-T1	Magni-Changer	2/3X	10X	4.5X, 6X, 7X, 10X, 15X, 18X, 20X, 25X	4", 4.4"
59M-T2	Magni-Changer	2/3X	15X	7X, 10X, 15X, 20X, 25X, 30X, 40X	4", 4.4"
59M-T3	Magni-Changer	2/3X	10X, 15X	4.5X, 6X, 7X, 10X, 15X, 18X, 20X, 25X, 30X, 40X	4", 4.4"
59M-D1	Magni-Changer	2X	10X	7X, 10X, 15X, 20X, 25X, 40X, 50X	1.5", 4"
59M-D2	Magni-Changer	2X	15X	10X, 15X, 20X, 25X, 30X, 40X, 60X, 80X	1.5", 4"
59M-D3	Magni-Changer	2X	10X, 15X	7X, 10X, 15X, 20X, 25X, 30X, 40X, 50X, 60X, 80X	1.5", 4"

SPECIAL LONG WORKING DISTANCE COMBINATIONS

59FL-1	Special: 1.33/2	—	10X	7.5X	8"
59FL-2	Special: 1.33/2	—	15X	10X	8"
59ML-1	Magni-Changer and 1/2X Objective	—	10X	3.5X, 5X, 7.5X, 10X, 12.5X	8"
59ML-2	Magni-Changer and 1/2X Objective	—	15X	5X, 7.5X, 10X, 15X, 20X	8"

One No. 584 Extension Rod is supplied with Models 59FL and 59ML.

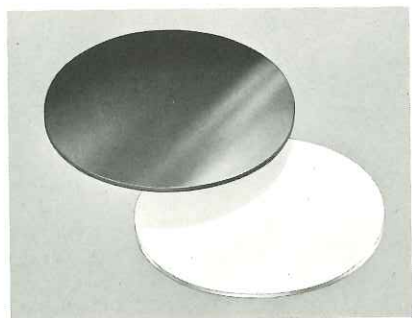
No. 1659 Cabinet for CYCLOPTIC microscope Series 59F and 59M is available at additional cost. See price insert. If 59S base-stage is not desired, substitute catalog number 55F or 55M in place of 59F or 59M in the above table. Series 55F and 55M are readily adaptable to large universal table stand No. 53S and Economy Table Stand No. 22. Cabinets are not available for CYCLOPTIC Series 55F and 55M.

WIDE FIELD EYEPIECES



Catalog Number	Description
1146	10X W.F. AMERICOTE, Pair
1147	15X W.F. AMERICOTE, Pair

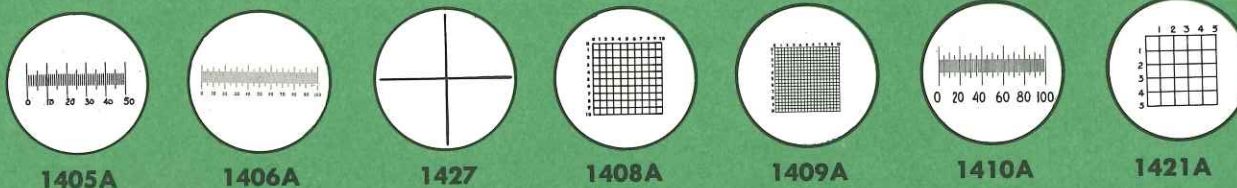
BLACK and WHITE STAGE PLATES 269



Stage plates Number 269 are intended for use with CYCLOPTIC Microscope Series 56, 58, and 59 . . . the set of two formica opaque plates—one white and the other black—are interchangeable with or may be specified instead of standard glass insert plates supplied with CYCLOPTIC Series 56, 58 and 59 at no additional cost.

Catalog Number	Description
269	Black and white stage plates . . . Set

MEASURING AND COUNTING ACCESSORIES FOR 146 or 147



Catalog No.	Description
1405A	Micrometer Disc 5mm Scale divided into 50 units
1406A	Micrometer Disc 10mm Scale divided into 100 units
1407A	Micrometer Disc 10mm Scale divided into 200 units
1408A	Net Micrometer Disc 10mm square subdivided into 100 squares
1409A	Net Micrometer Disc 10mm square subdivided into 400 squares
1410A	Micrometer Disc 5mm Scale divided into 100 units
1421A	Net Micrometer Disc 5mm square subdivided into 25 squares
1427	Cross-Hair Disc
148	Micrometer Disc Mount for No. 147 15X W.F. Eyepiece
469	Spanner Wrench for No. 146 10X W.F. Eyepiece
400	Stage Micrometer 2mm Scale divided into 200 .01mm units. Mounted on 25mm x 75mm slide. For calibration of eyepiece micrometer discs and fields of view
1411	Special Micrometer Disc, scale .060" long divided into 60 parts. Each fifth and tenth division longer and with center cross line extended. Each part calibrated to equal .001" on the work. For use with MAGNI-CHANGER only, drum setting at 20X, and with 10X W.F. Eyepiece.

EYESHIELDS



Catalog Number 149
For Eyepieces 1146B and 1147B.



APOCHROMATIC OBJECTIVES

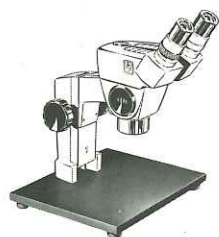
268	Standard objective
266	1/2X Special long working distance objective for 53, 55, 59 only.

ACHROMATIC AUXILIARY LENS-ATTACHMENTS



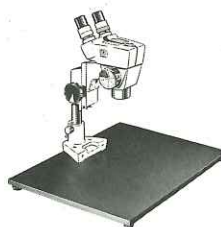
267	2/3X Auxiliary Lens-Attachment
265	2X Auxiliary Lens-Attachment

BASES, STANDS, MECHANICAL STAGES



30A

Phenolic-resin base-board $7\frac{1}{2}$ " x $9\frac{1}{2}$ "



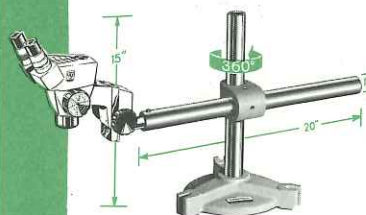
30B

Phenolic-resin base-board 12" x 17"



53S

Universal Table Microscope Stand for 53, 55, 59



22

Economy Table Stand Model 22 may be substituted for Universal Table Stand Model 53S or Base-Stage Model 59S supplied as standard with CYCLOPTIC Series 53F, 53M, 59F and 59M respectively.



59S

Base-stage for 53, 55, 59



1556

Ungraduated Mechanical Stage



59-851

Post receptacle with locking lever for 53, 55, 59



585

Transilluminating substage base with mirror for 56 and 58



59-852

Stage segment of 59S



584



585

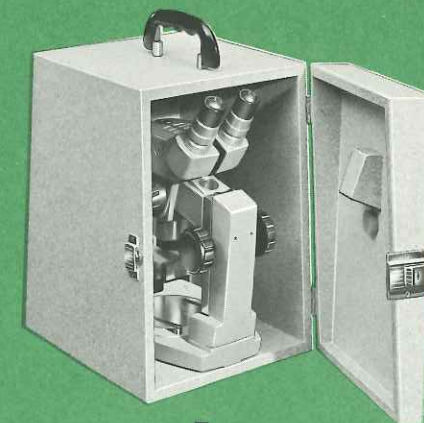
584

3" Extension rod for 55, 59

585

Lens protecting window and cell

CABINETS



Catalog No.	Description
1656	Cabinet for 56
1658	Cabinet for 58
1659	Cabinet for 59

ILLUMINATORS

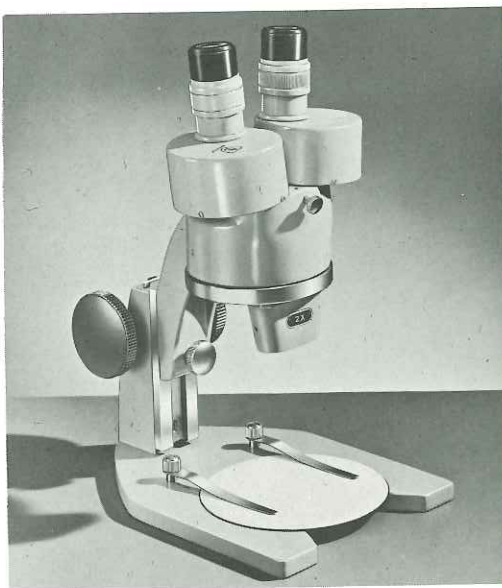


Cat. No.	Description
359	CYCLOSPOT Microscope Illuminator with prefocused two-lens condensing system, detachable universal arm, base-transformer, 6.5V 2.75 ampere clear glass lamp.
340A	Vertical Illuminator complete with lamphouse having multiple lens focusing system, 6.5V 2.75 ampere clear glass lamp, special bracket and hinge pin; vertical reflector; variable transformer.
341A	Lamphouse only, with multiple lens focusing system, 6.5V 2.75 ampere clear glass lamp, special bracket and hinge pin; variable transformer.
355	Replacement lamp 6.5V 2.75 ampere (G.E. No. 1497), for No. 359.
360	Replacement lamp 6.5V 2.75 ampere (G.E. 1493), for 340A, 341A.

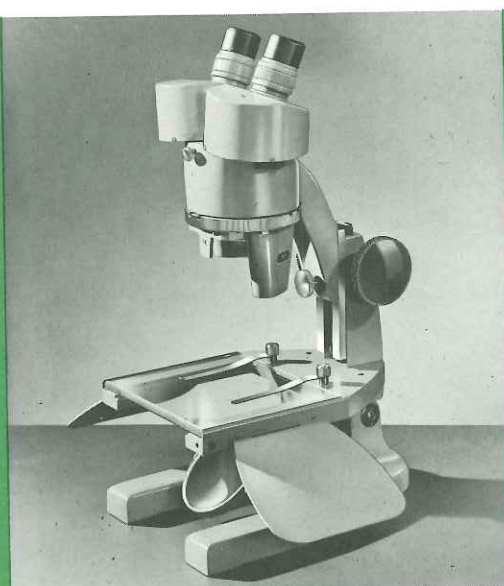


STEREOSCOPIC MICROSCOPES

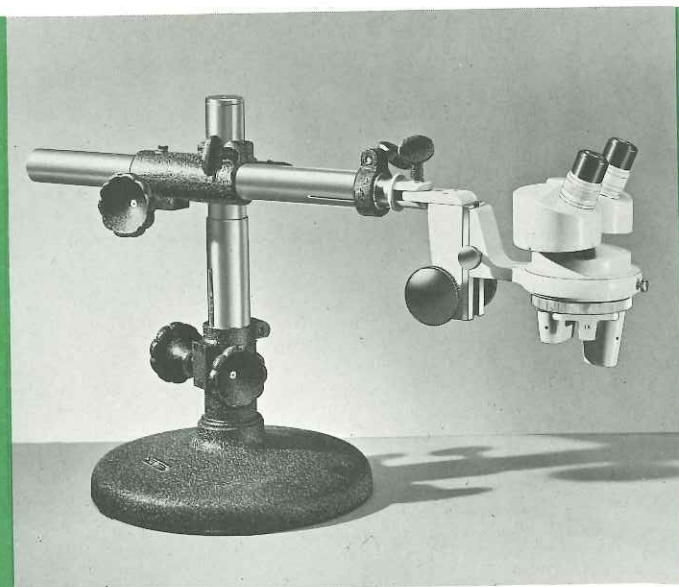
SERIES 20, 21, 23, 25, 26, 27, 28



Series 21



Series 25



Series 23

Outstanding Features

- *Conventional styling and design*
- *Inclined or vertical body*
- *Rigid and well balanced microscope stand*
- *Double extension dovetail slides*
- *Large field of view*

- *Top quality optics*
- *Conventional working distance*
- *Wide range of magnifications*
- *Interpupillary and eye-refraction adjustments*
- *Erected and unreversed image*

- *Dust-proof revolving nosepiece*
- *Interchangeable objectives*
- *Enhanced stereoscopic view*
- *Dove-gray Epoxy finish*
- *Broad selection of models*

Top Quality Optics

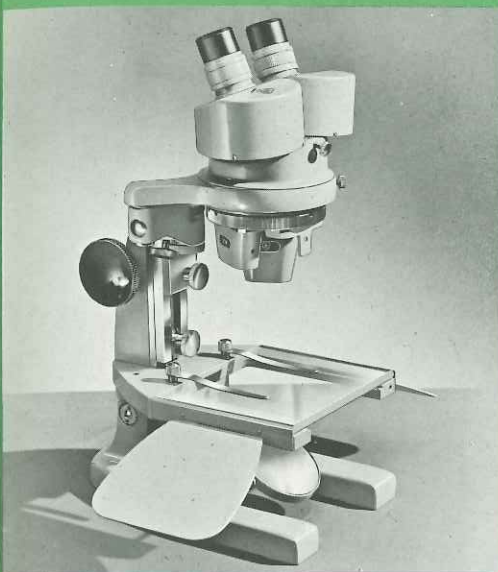


World-famed AO SPENCER optical design assures clear, sharp and erect stereoscopic images . . . wide field eyepieces feature high eyepoints for eyeglass wearers . . . greater eye comfort for prolonged observations.

Wide Range of Magnifications



Resultant magnification range of 7X to 120X is available. Intermediate magnifications are obtainable by various eyepiece-objective combinations. Objectives and paired eyepieces are instantly and easily interchanged.



Series 28



Series 27

Rigid, Well-Balanced Microscope Stands

A wide selection of microscope stands is offered to meet your requirements. All are well-balanced, rigid . . . designed to withstand hard usage . . . insure lasting optical alignment. Adjustment controls are sensibly positioned for fatigue-free operation.

Inclined or Vertical Body



Both vertical and 22° inclined binocular bodies are available . . . adjustable for interpupillary and eye-refraction differences . . . securely house Porro prism erecting system. Reversed bodies are available upon special request at no extra charge.

Dust-Proof Revolving Nosepiece



Three nosepieces are available: triple, double revolving and single objective adapter. Objectives accurately revolve around a vertical axis . . . internal optical and mechanical parts are dust-proofed. Objectives in use always foremost . . . uninterrupted path for efficient illumination and effective manipulation of specimen.



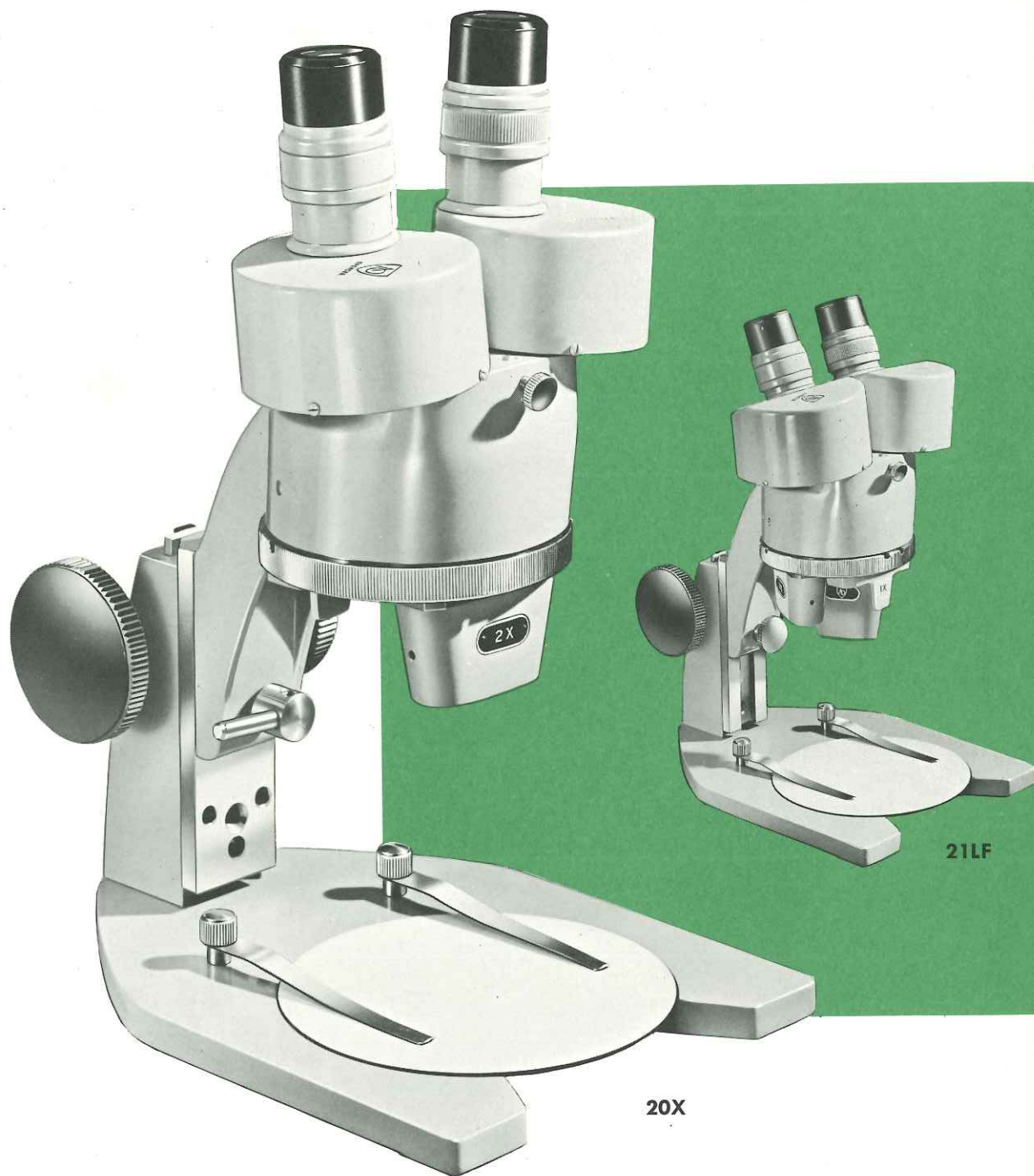
SPENCER

STEREOSCOPIC MICROSCOPE SERIES 20 and 21

STEREOSCOPIC MICROSCOPE Series 20 and 21 are supplied with vertical or inclined binocular bodies; triple, double revolving nosepiece or single objective adapter as selected; paired eyepieces and objectives as selected; rack and pinion focusing adjustment; heavy duty slideways; all metal base-stage with reversible black and white insert plate . . . with stage clips; and cabinet.

STEREOSCOPIC MICROSCOPE Series 21 has a variable intermediate dovetail slide with locking thumb screw which permits microscope body to be conveniently locked in any position. Series 20 has three alternate body locking positions.

A wide selection of STEREOSCOPIC MICROSCOPES Series 20 and 21 is available to satisfy your specific needs. Illustrated Models 20X and 21LF . . . and tabulation of additional models on page 23 are presented to simplify your final selection.



AO SPENCER STEREOSCOPIC MICROSCOPES... SERIES 20 and 21

	Catalog Number	Binocular Body	Nosepiece	Paired Achromatic Objectives	Eyepieces	Magnification Range
SERIES 20	20A	Vertical	Single	—	—	—
	20E	Vertical	Double	—	—	—
	20B	Vertical	Triple	—	—	—
	20X	Vertical	Double	1.0X, 2.0X	10X W.F.	10X and 20X
	20F	Vertical	Triple	1.0X, 2.0X, 3.0X	10X, 15X W.F.	10X to 45X
	20G	Vertical	Triple	1.0X, 3.0X, 6.0X	10X, 15X W.F.	10X to 90X
	20LA	Inclined	Single	—	—	—
	20LE	Inclined	Double	—	—	—
	20LB	Inclined	Triple	—	—	—
	20LX	Inclined	Double	1.0X, 2.0X	10X W.F.	10X and 20X
	20LF	Inclined	Triple	1.0X, 2.0X, 3.0X	10X, 15X W.F.	10X to 45X
	20LG	Inclined	Triple	1.0X, 3.0X, 6.0X	10X, 15X W.F.	10X to 90X
SERIES 21	21A	Vertical	Single	—	—	—
	21E	Vertical	Double	—	—	—
	21B	Vertical	Triple	—	—	—
	21X	Vertical	Double	1.0X, 2.0X	10X W.F.	10X and 20X
	21F	Vertical	Triple	1.0X, 2.0X, 3.0X	10X, 15X W.F.	10X to 45X
	21G	Vertical	Triple	1.0X, 3.0X, 6.0X	10X, 15X W.F.	10X to 90X
	21LA	Inclined	Single	—	—	—
	21LE	Inclined	Double	—	—	—
	21LB	Inclined	Triple	—	—	—
	21LX	Inclined	Double	1.0X, 2.0X	10X W.F.	10X and 20X
	21LF	Inclined	Triple	1.0X, 2.0X, 3.0X	10X, 15X W.F.	10X to 45X
	21LG	Inclined	Triple	1.0X, 3.0X, 6.0X	10X, 15X W.F.	10X to 90X

Cabinet 1621 is supplied with Stereoscopic Microscopes Series 20 and 21. If not desired, see price insert for deduction.



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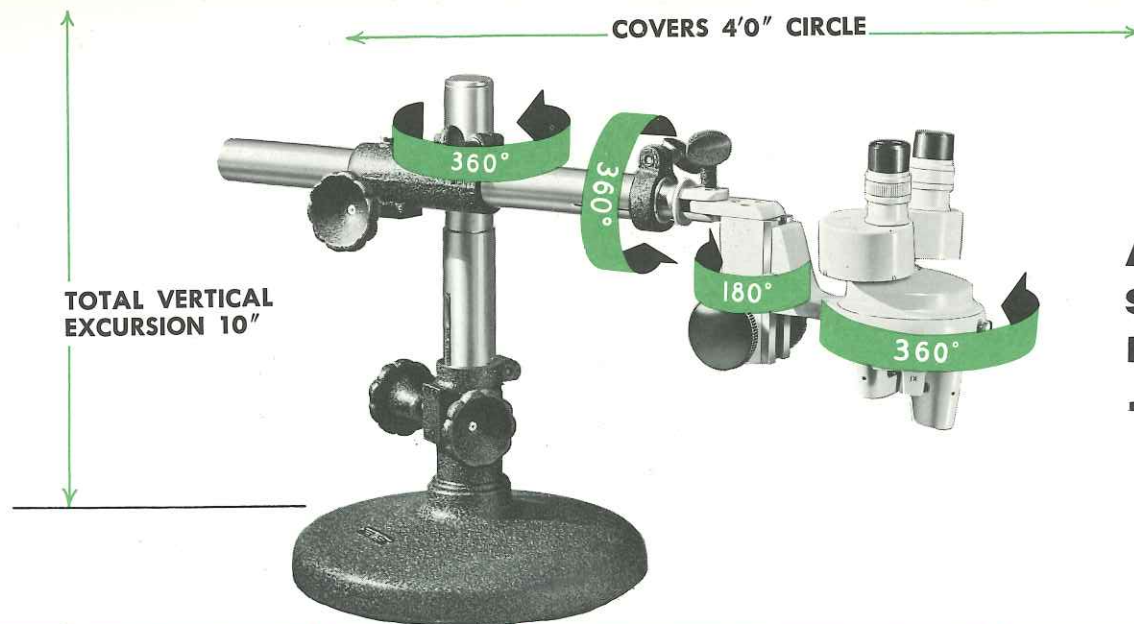
STEREOSCOPIC MICROSCOPE SERIES 23



23LF

STEREOSCOPIC MICROSCOPE. Series 23 are supplied with vertical or inclined binocular bodies . . . 360° rotatable optical head; triple, double revolving nosepiece or single objective adapter as selected; paired eyepieces and objectives as selected; rack and pinion focusing adjustment; heavy duty slideways; variable intermediate dovetail slide with locking thumb screw; large universal table stand; cabinet for binocular head and optics only.

A wide selection of STEREOSCOPIC MICROSCOPES SERIES 23 is available to satisfy your specific needs. Illustrated models 23LF and 23F . . . and tabulation of additional models on page 25 are presented to simplify your final selection.



AO SPENCER STEREOSCOPIC MICROSCOPES SERIES 23

Catalog Number	Binocular Body	Nosepiece	Paired Achromatic Objectives	Eyeieces	Magnification Range
23A	Vertical	Single	—	—	—
23E	Vertical	Double	—	—	—
23B	Vertical	Triple	—	—	—
23X	Vertical	Double	1.0X, 2.0X	10X W.F.	10X and 20X
23F	Vertical	Triple	1.0X, 2.0X, 3.0X	10X, 15X W.F.	10X to 45X
23G	Vertical	Triple	1.0X, 3.0X, 6.0X	10X, 15X W.F.	10X to 90X
23LA	Inclined	Single	—	—	—
23LE	Inclined	Double	—	—	—
23LB	Inclined	Triple	—	—	—
23LX	Inclined	Double	1.0X, 2.0X	10X W.F.	10X and 20X
23LF	Inclined	Triple	1.0X, 2.0X, 3.0X	10X, 15X W.F.	10X to 45X
23LG	Inclined	Triple	1.0X, 3.0X, 6.0X	10X, 15X W.F.	10X to 90X

Cabinet 1623 is supplied for binocular head and optics. If not desired, see price insert for deduction.



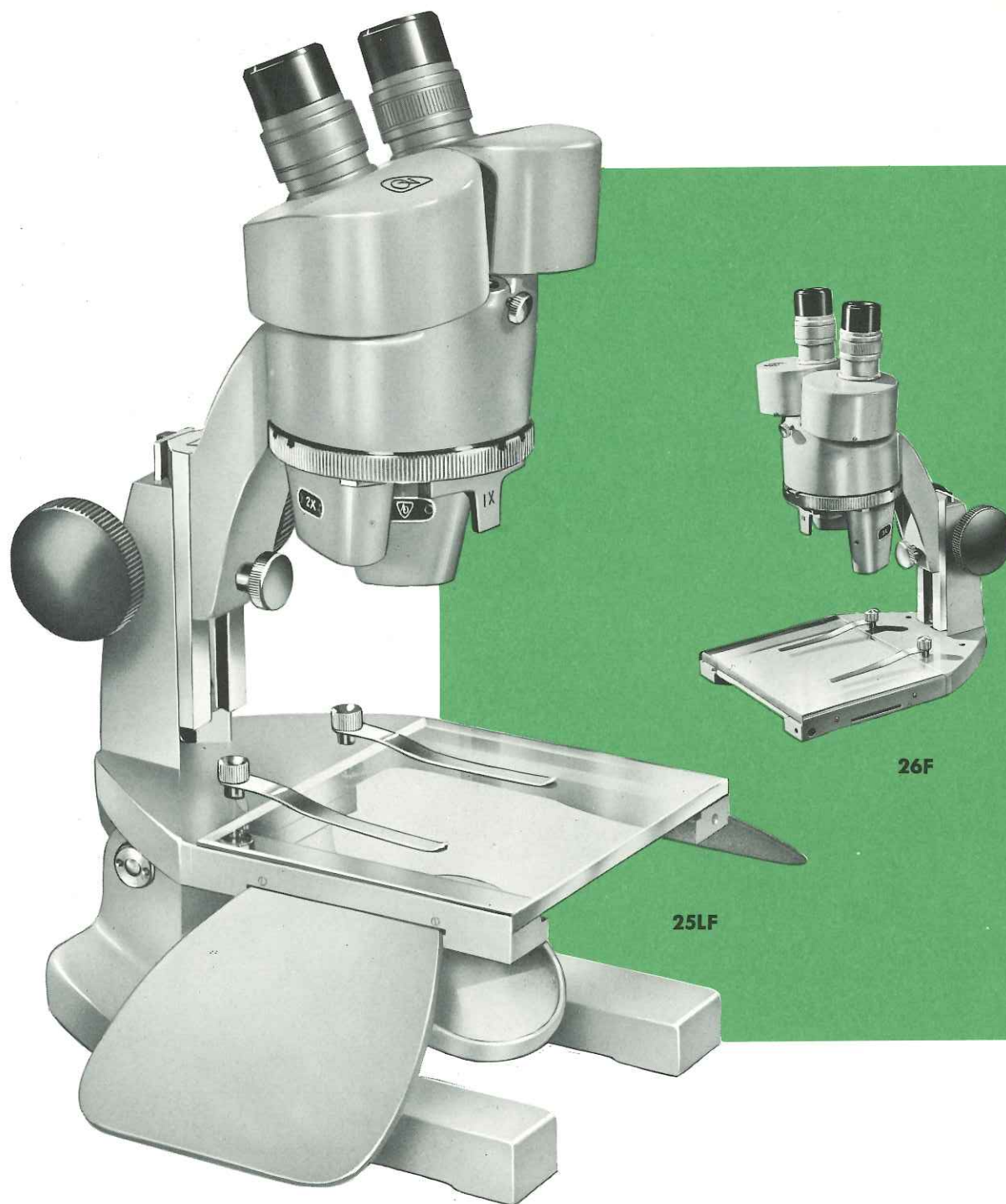
SPENCER

STEREOSCOPIC MICROSCOPE SERIES 25, 26

STEREOSCOPIC MICROSCOPE Series 25 and 26 are supplied with vertical or inclined binocular bodies; triple, double revolving nosepiece or single objective adapter as selected; paired eyepieces and objectives as selected; rack and pinion focusing adjustment; heavy duty slideways; intermediate dovetail slide with locking thumb screw; standard stage with removable glass stage, stage clips, and interchangeable black opaque and white translucent background plates; and cabinet.

STEREOSCOPIC MICROSCOPE Series 25 are identical to Series 26 except that Series 25 are supplied with Number 24 detachable horseshoe base unit, mirror, mirror-fork, hand rests, and larger cabinet.

A wide selection of STEREOSCOPIC MICROSCOPES Series 25 and 26 is available to satisfy your specific needs. Illustrated models 25LF and 26F . . . and tabulation of additional models on page 27 are presented to simplify your final selection.



AO SPENCER STEREOSCOPIC MICROSCOPES . . . SERIES 25 and 26

	Catalog Number	Binocular Body	Nosepiece	Paired Achromatic Objectives	Eyepieces	Magnification Range
SERIES 26	26A	Vertical	Single	—	—	—
	26E	Vertical	Double	—	—	—
	26B	Vertical	Triple	—	—	—
	26X	Vertical	Double	1.0X, 2.0X	10X W.F.	10X and 20X
	26F	Vertical	Triple	1.0X, 2.0X, 3.0X	10X, 15X W.F.	10X to 45X
	26G	Vertical	Triple	1.0X, 3.0X, 6.0X	10X, 15X W.F.	10X to 90X
	26LA	Inclined	Single	—	—	—
	26LE	Inclined	Double	—	—	—
	26LB	Inclined	Triple	—	—	—
	26LX	Inclined	Double	1.0X, 2.0X	10X W.F.	10X and 20X
	26LF	Inclined	Triple	1.0X, 2.0X, 3.0X	10X, 15X W.F.	10X to 45X
	26LG	Inclined	Triple	1.0X, 3.0X, 6.0X	10X, 15X W.F.	10X to 90X
SERIES 25	25A	Vertical	Single	—	—	—
	25E	Vertical	Double	—	—	—
	25B	Vertical	Triple	—	—	—
	25X	Vertical	Double	1.0X, 2.0X	10X W.F.	10X and 20X
	25F	Vertical	Triple	1.0X, 2.0X, 3.0X	10X, 15X W.F.	10X to 45X
	25G	Vertical	Triple	1.0X, 3.0X, 6.0X	10X, 15X W.F.	10X to 90X
	25LA	Inclined	Single	—	—	—
	25LE	Inclined	Double	—	—	—
	25LB	Inclined	Triple	—	—	—
	25LX	Inclined	Double	1.0X, 2.0X	10X W.F.	10X and 20X
	25LF	Inclined	Triple	1.0X, 2.0X, 3.0X	10X, 15X W.F.	10X to 45X
	25LG	Inclined	Triple	1.0X, 3.0X, 6.0X	10X, 15X W.F.	10X to 90X

Cabinet 1625 is supplied with Stereoscopic Microscopes Series 25; Cabinet 1626 is supplied with Series 26. If not desired, see price insert for deduction.



SPENCER

STEREOSCOPIC MICROSCOPE... SERIES 27

STEREOSCOPIC MICROSCOPE Series 27 are supplied with vertical binocular body; paired eyepieces and objectives as selected; objective protecting glass; two rack and pinion focusing adjustments . . . variable intermediate dovetail slide with locking thumb screw; heavy duty slideways; 90° vertical inclination joint; heavy casted base; and cabinet.

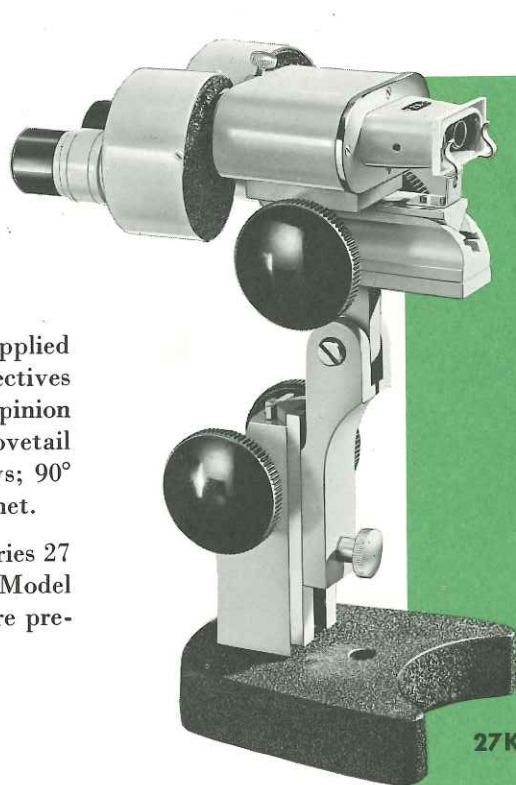
A selection of STEREOSCOPIC MICROSCOPES Series 27 is available to satisfy your specific needs. Illustrated Model 27K . . . and tabulation of additional models below are presented to simplify your final selection.

Catalog Number	Paired Objective	Wide Field Eyepieces	Total Magnification	Field Diameter	Working Distance
27J	1X	10X	10X	20.0mm*	89mm*
27K	2	10X	20X	10.0	70
27L	3	10X	30X	6.7	48

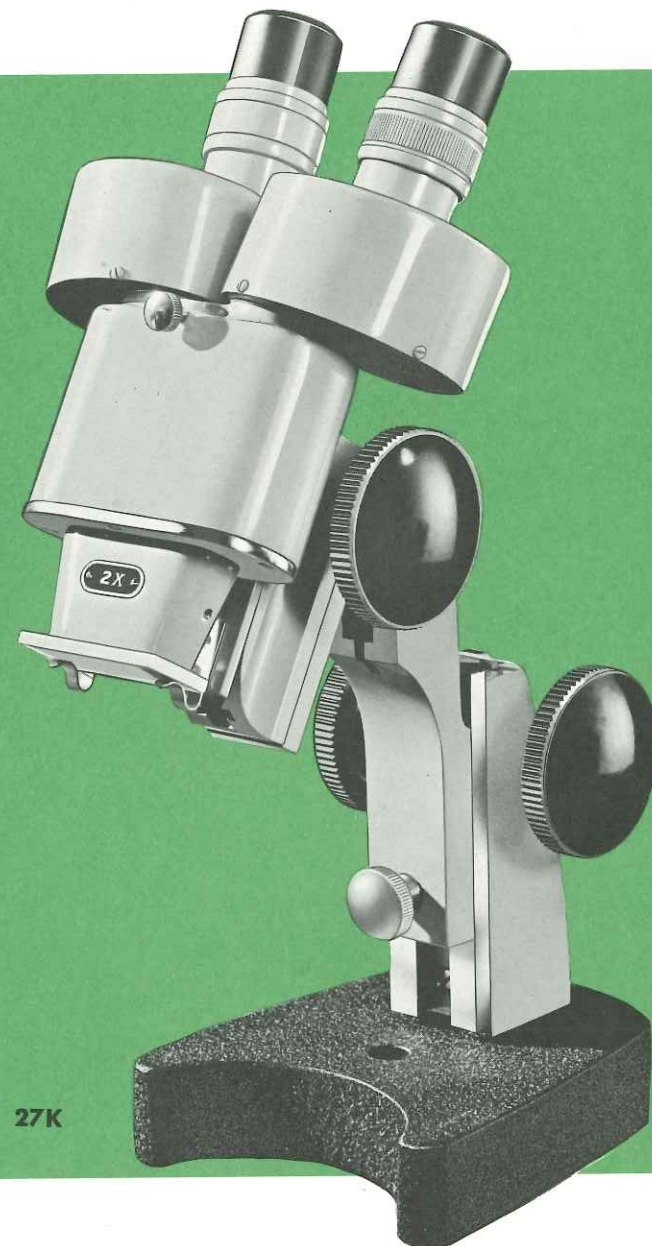
Working distance is measured from object to front of protecting glass plate.

*To convert to inches: divide by 25.4

Cabinet 1627 is supplied for Stereoscopic Microscope Series 27. If not desired, see price insert for deduction.



27K

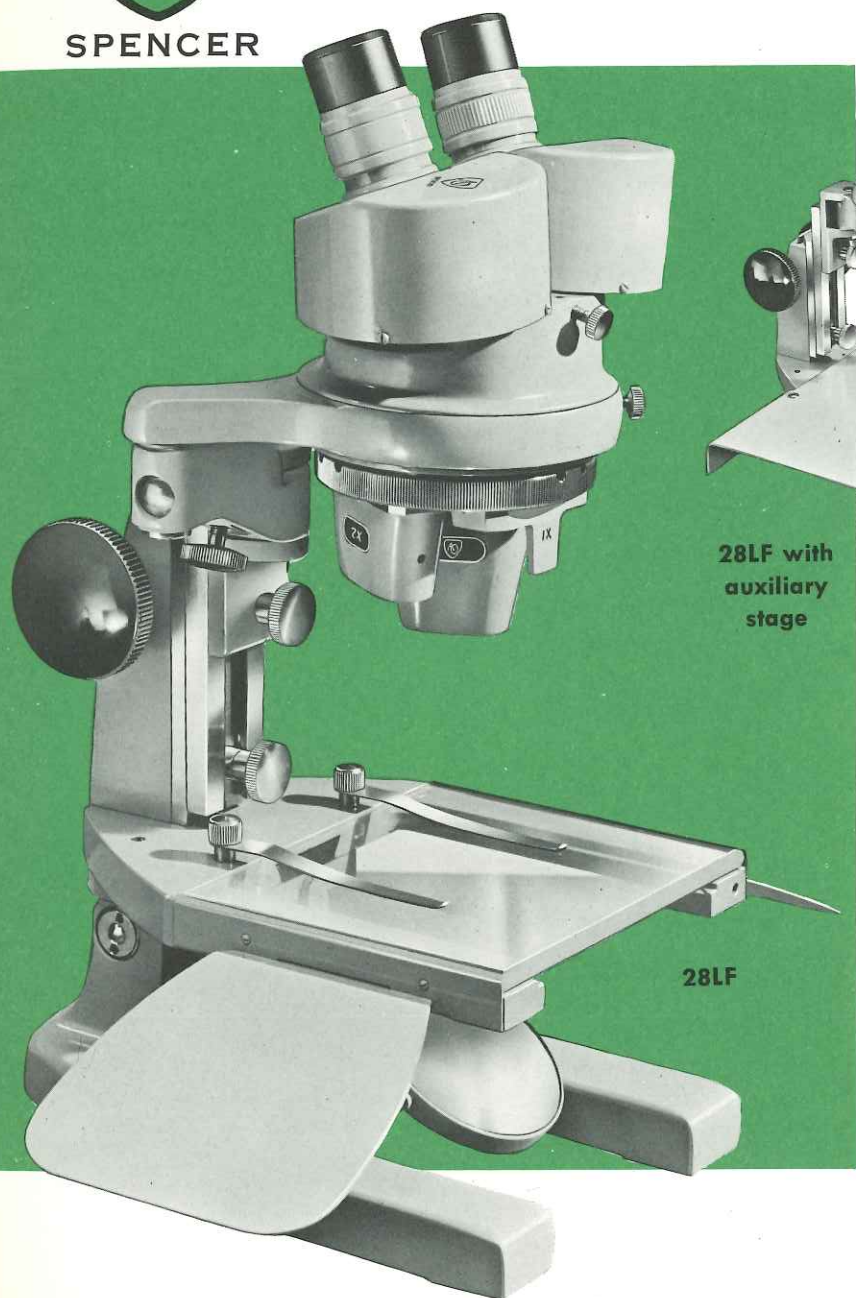


27K



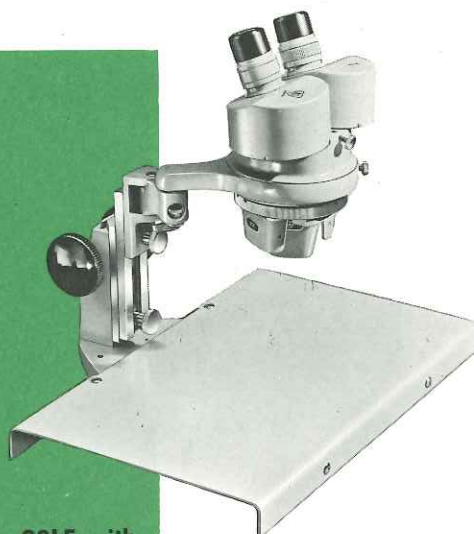
SPENCER

STEREOSCOPIC MICROSCOPE . . . SERIES 28



28LF with
auxiliary
stage

28LF



STEREOSCOPIC MICROSCOPE Series 28L are supplied with inclined binocular bodies . . . 360° rotatable optical head . . . double swivel horizontal scanning arm; triple, double revolving nosepiece or single objective adapter as selected; paired eyepieces and objectives as selected; rack and pinion focusing adjustment; heavy duty slideways; double extension intermediate slides with locking thumb screws; standard stage with removable glass stage, stage clips, interchangeable black opaque and white translucent background plates; detachable horseshoe base unit, mirror, mirror-fork, hand rests . . . 8" x 12½" metal auxiliary stage; and cabinet.

Illustrated model 28LF . . . and tabulation of additional models on this page are presented to simplify your final selection.

Catalog Number	Binocular Body	Nosepiece	Paired Achromatic Objectives	Eyepieces	Magnification Range
28LA	Inclined	Single	—	—	—
28LE	Inclined	Double	—	—	—
28LB	Inclined	Triple	—	—	—
28LX	Inclined	Double	1.0X, 2.0X	10X W.F.	10X and 20X
28LF	Inclined	Triple	1.0X, 2.0X, 3.0X	10X, 15X W.F.	10X to 45X
28LG	Inclined	Triple	1.0X, 3.0X, 6.0X	10X, 15X W.F.	10X to 90X

Cabinet 1628 is supplied with Stereoscopic Microscope Series 28. If not desired, see price insert for deduction.

PAIRED ACHROMATIC OBJECTIVES



Catalog Number	Description
271	1.0X for 27
272	2.0X for 27
273	3.0X for 27
294	0.7X for 20, 21, 23, 25, 26, 28
295	1.0X for 20, 21, 23, 25, 26, 28
296	2.0X for 20, 21, 23, 25, 26, 28
297	3.0X for 20, 21, 23, 25, 26, 28
298	4.0X for 20, 21, 23, 25, 26, 28
299	6.0X for 20, 21, 23, 25, 26, 28
300	8.0X for 20, 21, 23, 25, 26, 28

EYEPIECES



1146B



1147B



1141 10X Huygenian Paired

Completely NEW four-optical-element wide field eyepieces offer superior image quality . . . wide field of view . . . full chromatic, curvature and distortion correction . . . comfortable eye relief even for eyeglass wearers.

Catalog Numbers 1146B and 1147B 10X and 15X wide field eyepieces are specifically designed for use with stereoscopic microscopes described and illustrated on pages 20 through 31.

The new eyepieces are supplied with low reflection coating . . . and readily accept measuring and counting discs described at lower left page 31.

Catalog Number	Eyepiece Description
1146B	10X W.F. AMERICOTE Pair
1147B	15X W.F. AMERICOTE Pair

EYESHIELDS



Catalog Number 149
For Eyepieces 1146B and 1147B.

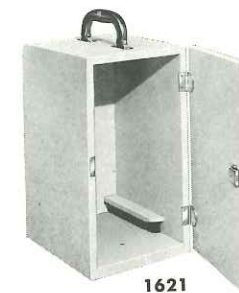


ACCESSORIES FOR STEREOSCOPIC MICROSCOPES

ILLUMINATORS

Catalog Number	Description
353	Universal Microscope Illuminator with three-link jackknife standard and base; three-lens focusable condensing system; 6.5 volt, 2.75 ampere, clear glass lamp; blue glass; and UL approved variable transformer.
354	Iris diaphragm for 353.
478	Bracket for attaching 353 to stage of 25, 26, 28.
360	Replacement lamp 6.5 volt, 2.75 ampere (G.E. 1493) for 353.
370A	Adjustable Microscope Illuminator with iris diaphragm, blue and ground glass filters, 2 lens condensing system, adjustable ring stand, 100 watt, 120 volt bayonet base lamp and 5 foot cord with switch.
375	Replacement lamp 100 watt, 120 volt, bayonet base for 370A (G.E. 100G16 1/2/29SC-120).
359	CYCLOSPOT (See page 8).

CABINETS



1621

Catalog Number	Description
1621	Cabinet for 20 and 21.
1623	Cabinet for 23 optical head only.
1625	Cabinet for 25.
1626	Cabinet for 26.
1627	Cabinet for 27.
1628	Cabinet for 28.

PAIRED ACHROMATIC OBJECTIVES



Catalog Number	Description
271	1.0X for 27
272	2.0X for 27
273	3.0X for 27
294	0.7X for 20, 21, 23, 25, 26, 28
295	1.0X for 20, 21, 23, 25, 26, 28
296	2.0X for 20, 21, 23, 25, 26, 28
297	3.0X for 20, 21, 23, 25, 26, 28
298	4.0X for 20, 21, 23, 25, 26, 28
299	6.0X for 20, 21, 23, 25, 26, 28
300	8.0X for 20, 21, 23, 25, 26, 28



ACCESSORIES

SPENCER

ILLUMIN

Catalog Number	Description
353	Universal Microscope Illuminator with three-link jackknife standard and base; three-lens focusable condensing system; 6.5 volt, 2.75 ampere, clear glass lamp; blue glass; and UL approved variable transformer.
354	Iris diaphragm for 353.
478	Bracket for attaching 353 to stage of 25, 26, 28.
360	Replacement lamp 6.5 volt, 2.75 ampere (G.E. 1493) for 353.
370A	Adjustable Microscope Illuminator with iris diaphragm, blue and ground glass filters, 2 lens condensing system, adjustable ring stand, 100 watt, 120 volt bayonet base lamp and 5 foot cord with switch.
375	Replacement lamp 100 watt, 120 volt, bayonet base for 370A (G.E. 100G16½/29SC-120).
359	CYCLOSPOT (See page 8).

EYEPIECES



1146B



1147B



1141 10X Huygenian Paired

Completely NEW four-optical-element wide field eyepieces offer superior image quality . . . wide field of view . . . full chromatic, curvature and distortion correction . . . comfortable eye relief even for eyeglass wearers.

Catalog Numbers 1146B and 1147B 10X and 15X wide field eyepieces are specifically designed for use with stereoscopic microscopes described and illustrated on pages 20 through 31.

The new eyepieces are supplied with low reflection coating

EYESHIELDS



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1621

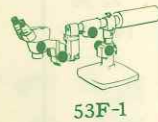
Catalog Number	Description
1621	Cabinet for 20 and 21.
1623	Cabinet for 23 optical head only.
1625	Cabinet for 25.
1626	Cabinet for 26.
1627	Cabinet for 27.
1628	Cabinet for 28.

PRICE LIST

AO Spencer CYCLOPTIC . . . STEREOSCOPIC MICROSCOPES and Accessories

BROCHURE SB56-458

EFFECTIVE MAY 1, 1958



53F-1

Page No.	Catalog Number	Unit Net Price Quantity 1-4	Unit Net Price Quantity 5 or More
11	53F	\$384.00	\$345.60
	53F-1	417.00	375.30
	53F-2	417.00	375.30
	53F-3	450.00	405.00



Page No.	Catalog Number	Unit Net Price Quantity 1-4	Unit Net Price Quantity 5 or More
	56F-D1	\$235.00	\$211.50
	56F-D2	235.00	211.50
	56F-D3	268.00	241.20

M	297.00	267.30
M-1	330.00	297.00
M-2	330.00	297.00
M-3	363.00	326.70
M-T1	355.00	319.50
M-T2	355.00	319.50
M-T3	388.00	349.20
M-D1	355.00	319.50
M-D2	355.00	319.50
M-D3	388.00	349.20

56 23.00 20.70

F	207.00	186.30
F-1	240.00	216.00
F-2	240.00	216.00
F-3	273.00	245.70
F-T1	265.00	238.50

58F-T2	265.00	238.50
58F-T3	298.00	268.20
58F-D1	265.00	238.50
58F-D2	265.00	238.50
58F-D3	298.00	268.20

58M	327.00	294.30
58M-1	360.00	324.00
58M-2	360.00	324.00
58M-3	393.00	353.70
58M-T1	385.00	346.50
58M-T2	385.00	346.50



59F-1



59M-1

Page No.	Catalog Number	Unit Net Price Quantity 1-4	Unit Net Price Quantity 5 or More
	58M-T3	\$418.00	\$376.20
	58M-D1	385.00	346.50
	58M-D2	385.00	346.50
	58M-D3	418.00	376.20
16	1658	23.00	20.70
	55M	304.00	273.60
	59S	27.00	24.30
	59-851	19.50	17.55
17	59-852	7.50	6.75
	59F	211.00	189.90
	59F-1	244.00	219.60
	59F-2	244.00	219.60
	59F-3	277.00	249.30
	59F-T1	269.00	242.10
	59F-T2	269.00	242.10
	59F-T3	302.00	271.80
	59F-D1	269.00	242.10
	59F-D2	269.00	242.10
	59F-D3	302.00	271.80
	584	5.00	4.50
	59M	331.00	297.90
	59M-1	364.00	327.60
	59M-2	364.00	327.60
	59M-3	397.00	357.30
	59M-T1	389.00	350.10
	59M-T2	389.00	350.10
	59M-T3	422.00	379.80
	59M-D1	389.00	350.10
	59M-D2	389.00	350.10
	59M-D3	422.00	379.80

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Address _____

City _____ Zone _____ State _____

Name _____

Address _____

City _____ Zone _____ State _____



56F-1

13	53FL-1	427.00	384.30
	53FL-2	427.00	384.30
	53ML-1	547.00	492.30
	53ML-2	547.00	492.30
	56F	177.00	159.30
	56F-1	210.00	189.00
	56F-2	210.00	189.00
	56F-3	243.00	218.70
	56F-T1	235.00	211.50
	56F-T2	235.00	211.50
	56F-T3	268.00	241.20



58M-1

CYCLOPTIC MICROSCOPE SERIES 53, 55, 56, 58 and 59 are supplied without cabinets and priced accordingly.

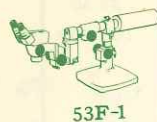
STEREOSCOPIC MICROSCOPE SERIES 20, 21, 23, 25, 26, 27 and 28 are supplied with cabinets and priced accordingly.

PRICE LIST

AO Spencer CYCLOPTIC . . . STEREOSCOPIC MICROSCOPES and Accessories

BROCHURE SB56-458

EFFECTIVE MAY 1, 1958



53F-1



53M-1



56F-1



56M-1



58F-1



58M-1

Page No.	Catalog Number	Unit Net Price Quantity 1—4	Unit Net Price Quantity 5 or More
11	53F	\$384.00	\$345.60
	53F-1	417.00	375.30
	53F-2	417.00	375.30
	53F-3	450.00	405.00
	53F-T1	442.00	397.80
	53F-T2	442.00	397.80
	53F-T3	475.00	427.50
	53F-D1	442.00	397.80
	53F-D2	442.00	397.80
	53F-D3	475.00	427.50
	53M	504.00	453.60
	53M-1	537.00	483.30
	53M-2	537.00	483.30
	53M-3	570.00	513.00
	53M-T1	562.00	505.80
	53M-T2	562.00	505.80
	53M-T3	595.00	535.50
	53M-D1	562.00	505.80
	53M-D2	562.00	505.80
	53M-D3	595.00	535.50
13	53FL-1	427.00	384.30
	53FL-2	427.00	384.30
	53ML-1	547.00	492.30
	53ML-2	547.00	492.30
	56F	177.00	159.30
	56F-1	210.00	189.00
	56F-2	210.00	189.00
	56F-3	243.00	218.70
	56F-T1	235.00	211.50
	56F-T2	235.00	211.50
	56F-T3	268.00	241.20

Page No.	Catalog Number	Unit Net Price Quantity 1—4	Unit Net Price Quantity 5 or More
15	56F-D1	\$235.00	\$211.50
	56F-D2	235.00	211.50
	56F-D3	268.00	241.20
	56M	297.00	267.30
	56M-1	330.00	297.00
	56M-2	330.00	297.00
	56M-3	363.00	326.70
	56M-T1	355.00	319.50
	56M-T2	355.00	319.50
	56M-T3	388.00	349.20
	56M-D1	355.00	319.50
	56M-D2	355.00	319.50
	56M-D3	388.00	349.20
	1656	23.00	20.70
	58F	207.00	186.30
	58F-1	240.00	216.00
	58F-2	240.00	216.00
	58F-3	273.00	245.70
	58F-T1	265.00	238.50
	58F-T2	265.00	238.50
	58F-T3	298.00	268.20
	58F-D1	265.00	238.50
	58F-D2	265.00	238.50
	58F-D3	298.00	268.20
	58M	327.00	294.30
	58M-1	360.00	324.00
	58M-2	360.00	324.00
	58M-3	393.00	353.70
	58M-T1	385.00	346.50
	58M-T2	385.00	346.50



59F-1



59M-1

Page No.	Catalog Number	Unit Net Price Quantity 1—4	Unit Net Price Quantity 5 or More
16	58M-T3	\$418.00	\$376.20
	58M-D1	385.00	346.50
	58M-D2	385.00	346.50
	58M-D3	418.00	376.20
	1658	23.00	20.70
	55M	304.00	273.60
	59S	27.00	24.30
	59-851	19.50	17.55
	59-852	7.50	6.75
	59F	211.00	189.90
17	59F-1	244.00	219.60
	59F-2	244.00	219.60
	59F-3	277.00	249.30
	59F-T1	269.00	242.10
	59F-T2	269.00	242.10
	59F-T3	302.00	271.80
	59F-D1	269.00	242.10
	59F-D2	269.00	242.10
	59F-D3	302.00	271.80
	584	5.00	4.50
	59M	331.00	297.90
	59M-1	364.00	327.60
	59M-2	364.00	327.60
	59M-3	397.00	357.30
	59M-T1	389.00	350.10
	59M-T2	389.00	350.10
	59M-T3	422.00	379.80
	59M-D1	389.00	350.10
	59M-D2	389.00	350.10
	59M-D3	422.00	379.80

CYCLOPTIC MICROSCOPE SERIES 53, 55, 56, 58 and 59 are supplied without cabinets and priced accordingly.

STEREOSCOPIC MICROSCOPE SERIES 20, 21, 23, 25, 26, 27 and 28 are supplied with cabinets and priced accordingly.



55F-1



55M-1

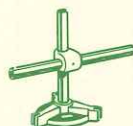


1146

Page No.	Catalog Number	Unit Net Price Quantity 1-4	Unit Net Price Quantity 5 or More
17	59FL-1	\$259.00	\$233.10
	59FL-2	259.00	233.10
	59ML-1	379.00	341.10
	59ML-2	379.00	341.10
	1659	23.00	20.70
	53S	200.00	180.00
	59S	27.00	24.30
	55F	184.00	165.60
	55F-1	217.00	195.30
	55F-2	217.00	195.30
	55F-3	250.00	225.00
	55F-T1	242.00	217.80
	55F-T2	242.00	217.80
	55F-T3	275.00	247.50
	55F-D1	242.00	217.80
	55F-D2	242.00	217.80
	55F-D3	275.00	247.50
	55M	304.00	273.60
	55M-1	337.00	303.30
	55M-2	337.00	303.30
	55M-3	370.00	333.00
	55M-T1	362.00	325.80
	55M-T2	362.00	325.80
	55M-T3	395.00	355.50
	55M-D1	362.00	325.80
	55M-D2	362.00	325.80
	55M-D3	395.00	355.50
18	55FL-1	227.00	204.30
	55FL-2	227.00	204.30
	55ML-1	347.00	312.30
	55ML-2	347.00	312.30
	1146 pair	33.00	29.70
	1147 pair	33.00	29.70



53S



22

Page No.	Catalog Number	Unit Net Price Quantity 1-4	Unit Net Price Quantity 5 or More
19	149	\$.30	\$.27
	1405A	6.50	5.85
	1406A	7.50	6.75
	1407A	7.50	6.75
	1408A	12.00	10.80
	1409A	12.00	10.80
	1410A	6.50	5.85
	1421A	12.00	10.80
	1427	7.50	6.75
	148	.75	.68
	469	.50	.45
	400	20.00	18.00
	1411	10.00	9.00
	266	35.00	31.50
	268	25.00	22.50
	265	25.00	22.50
	267	25.00	22.50
	269	2.00	1.80
	30A	11.50	10.35
	30B	23.50	21.15
	53S	200.00	180.00
	59S	27.00	24.30
	59-851	19.50	17.55
	59-852	7.50	6.75
	58S	30.00	27.00
	22	50.00	45.00
	If substituted on 53 Deduct	150.00	135.00
	If substituted on 59 Add	23.00	20.70
	1556	72.00	64.80
	584	5.00	4.50
	585	7.50	6.75



1656



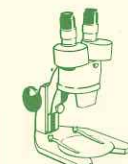
359



20X



20LX



21X



21LX

Page No.	Catalog Number	Unit Net Price Quantity 1-4	Unit Net Price Quantity 5 or More
19	1656	\$ 23.00	\$ 20.70
	1658	23.00	20.70
	1659	23.00	20.70
	359	25.00	22.50
	340A	115.00	103.50
	341A	75.00	67.50
	355	1.00	MCP
	360	1.00	MCP
23	20A	208.00	187.20
	20E	226.00	203.40
	20B	238.00	214.20
	20X	333.00	299.70
	20F	415.00	373.50
	20G	422.00	379.80
	20LA	248.00	223.20
	20LE	266.00	239.40
	20LB	278.00	250.20
	20LX	373.00	335.70
	20LF	455.00	409.50
	20LG	462.00	415.80
	21A	213.00	191.70
	21E	231.00	207.90
	21B	243.00	218.70
	21X	338.00	304.20
25	21F	420.00	378.00
	21G	427.00	384.30
	21LA	253.00	227.70
	21LE	271.00	243.90
	21LB	283.00	254.70
	21LX	378.00	340.20
	21LF	460.00	414.00
	21LG	467.00	420.30
	1621	23.00	20.70
	23A	353.00	317.70



23F



23LF



25F

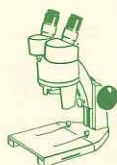


25LF



26F

Page No.	Catalog Number	Unit Net Price Quantity 1—4	Unit Net Price Quantity 5 or More
25	23E	\$371.00	\$333.90
	23B	383.00	344.70
	23X	478.00	430.20
	23F	560.00	504.00
	23G	567.00	510.30
	23LA	393.00	353.70
	23LE	411.00	369.90
	23LB	423.00	380.70
	23LX	518.00	466.20
	23LF	600.00	540.00
	23LG	607.00	546.30
	1623	23.00	20.70
	1625	23.00	20.70
27	25A	272.00	244.80
	25E	290.00	261.00
	25B	302.00	271.80
	25X	397.00	357.30
	25F	479.00	431.10
	25G	486.00	437.40
	25LA	312.00	280.80
	25LE	330.00	297.00
	25LB	342.00	307.80
	25LX	437.00	393.30
	25LF	519.00	467.10
	25LG	526.00	473.40
	26A	236.00	212.40
	26E	254.00	228.60
	26B	266.00	239.40
	26X	361.00	324.90
	26F	443.00	398.70
	26G	450.00	405.00
	26LA	276.00	248.40
	26LE	294.00	264.60
	26LB	306.00	275.40



26LF



27K



28LF



353

Page No.	Catalog Number	Unit Net Price Quantity 1—4	Unit Net Price Quantity 5 or More
27	26LX	\$401.00	\$360.90
	26LF	483.00	434.70
	26LG	490.00	441.00
28	1626	23.00	20.70
	27J	331.00	297.90
	27K	331.00	297.90
	27L	331.00	297.90
	1627	23.00	20.70
29	28LA	395.00	355.50
	28LE	413.00	371.70
	28LB	425.00	382.50
	28LX	520.00	468.00
	28LF	602.00	541.80
	28LG	609.00	548.10
	1628	26.00	23.40
	300	44.00	39.60
30	271	37.00	33.30
	272	37.00	33.30
	273	37.00	33.30
	294	37.00	33.30
	295	37.00	33.30
	296	37.00	33.30
	297	37.00	33.30
	298	40.00	36.00
	299	44.00	39.60
	1146B, pair	33.00	29.70
	1147B, pair	33.00	29.70
	1141, paired	16.00	14.40
	149	.30	.27
	353	64.00	57.60
	354	10.00	9.00



370A



359



23S

Page No.	Catalog Number	Unit Net Price Quantity 1—4	Unit Net Price Quantity 5 or More
31	478	\$3.00	\$2.70
	360	1.00 MCP	—
	370A	63.00	56.70
	375	1.80 MCP	—
	359	25.00	22.50
	1621	23.00	20.70
	1623	23.00	20.70
	1625	23.00	20.70
	1626	23.00	20.70
	1627	23.00	20.70
	1628	26.00	23.40
	442	8.00	7.20
	443	26.00	23.40
	446	38.00	34.20
	1405A	6.50	5.85
	1406A	7.50	6.75
	1407A	7.50	6.75
	1408A	12.00	10.80
	1409A	12.00	10.80
	1410A	6.50	5.85
	1421A	12.00	10.80
	1427	7.50	6.75
23S	148	.75	.68
	469	.50	.45
	400	20.00	18.00
	294	37.00	33.30
	295	37.00	33.30
	296	37.00	33.30
	297	37.00	33.30
	298	40.00	36.00
	299	44.00	39.60
	300	44.00	39.60
	23S	151.00	135.90
	24	36.00	32.40

Page No.	Catalog Number	Unit Net Price Quantity 1—4	Unit Net Price Quantity 5 or More
31	29A	\$11.50	\$10.35
	29B	23.50	21.15
	1584A	59.00	53.10
	586	3.00	2.70
	587	3.00	2.70

The equipment supplied may not agree in all details with the descriptions or illustrations shown, as instruments are subject to modification and improvement.

All prices, deliveries and terms of sale are subject to change without notice.

Applicable taxes are in addition to prices stated.

Orders are subject to final acceptance by the Sales Office at Buffalo with the understanding that prices and terms prevailing at time of delivery will apply.



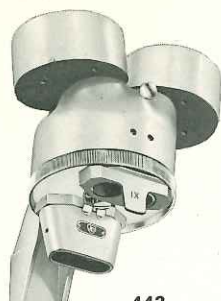
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NOSEPIECES



442



443



446

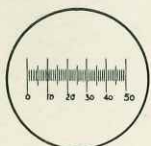
Catalog
Number

Description

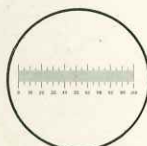
- | | |
|-----|---|
| 442 | Single Adapter for 20, 21, 23, 25, 26, 28 |
| 443 | Double Revolving for 20, 21, 23, 25, 26, 28 |
| 446 | Triple Revolving for 20, 21, 23, 25, 26, 28 |

SERIES 20, 21, 23, 25, 26, 27 and 28

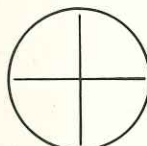
MEASURING AND COUNTING ACCESSORIES FOR EYEPIECES 1146B or 1147B



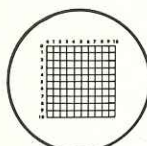
1405A



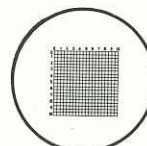
1406A



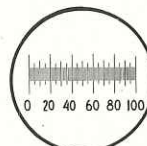
1427



1408A



1409A



1410A



148



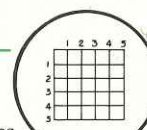
469

Catalog
Number

Description

- | | |
|-------|---|
| 1405A | Micrometer Disc 5mm Scale divided into 50 units |
| 1406A | Micrometer Disc 10mm Scale divided into 100 units |
| 1407A | Micrometer Disc 10mm Scale divided into 200 units |
| 1408A | Net Micrometer Disc 10mm square subdivided into 100 squares |
| 1409A | Net Micrometer Disc 10mm square subdivided into 400 squares |
| 1410A | Micrometer Disc 5mm Scale divided into 100 units |
| 1421A | Net Micrometer Disc 5mm square subdivided into 25 squares |
| 1427 | Cross-Hair Disc |
| 148 | Micrometer Disc Mount for No. 1147B 15X W.F. Eyepiece |
| 469 | Spanner Wrench for No. 1146B 10X W.F. Eyepiece |
| 400 | Stage Micrometer 2mm Scale divided into 200 .01mm units |

Mounted on 25mm x 75mm slide. For calibration of eyepiece micrometer discs and fields of view.
No additional charge is made for No. 148 or No. 469 when Stereoscopic Series 20-28 are ordered with counting or measuring disc



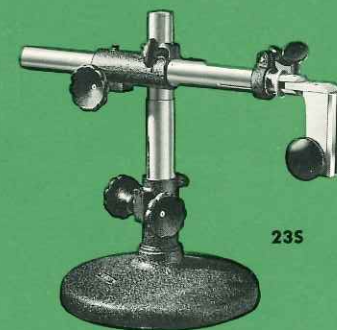
1421A

TABLE OF MAGNIFICATIONS AND FIELDS OF VIEW

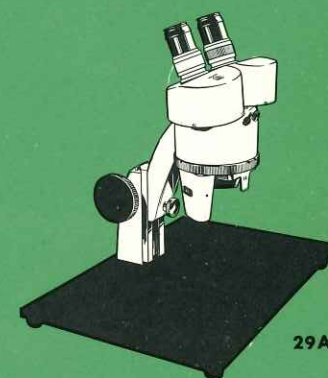
OBJECTIVES			EYEPIECES					
Catalog Number	Magnification	Working Distance	10X Huygenian Catalog No. 1141		10X Wide Field Catalog No. 1146B		15X Wide Field Catalog No. 1147B	
			Magnif.	Field*	Magnif.	Field*	Magnif.	Field*
294	0.7X	mm 95	7X	18.7	7X	mm 28.6	10.5X	mm 24.0
295	1.0	95	10X	13.1	10.0	20.0	15.0	16.8
296	2.0	75	20X	6.6	20.0	10.0	30.0	8.4
297	3.0	55	30X	4.4	30.0	6.7	45.0	5.6
298	4.0	43	40X	3.3	40.0	5.0	60.0	4.2
299	6.0	27	60X	2.2	60.0	3.3	90.0	2.8
300	8.0	21	80X	1.6	80.0	2.5	120.0	2.1

*To convert millimeter values to inches: divide by 25.4.

BASES, STANDS, MECHANICAL STAGES



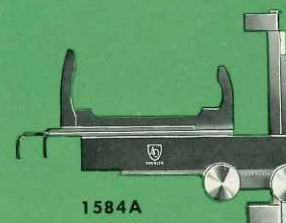
235



29A



24



1584A

Catalog
Number

Description

- | | |
|-------|--|
| 235 | Microscope stand and base for 23. |
| 24 | Horseshoe base unit with mirror for 25. |
| 29A | Phenolic-resin baseboard 7 1/2" x 9 1/2". |
| 29B | Phenolic-resin baseboard 12" x 17". |
| 1584A | Mechanical stage, ungraduated, with case, for 25, 28. |
| 586 | Objective protecting glass for 1X and 2X objectives, for 27. |
| 587 | Objective protecting glass for 3X objectives, for 27. |

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